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ABSTRACT

The curriculum guide for agricultural science and mechanics 1 and 2 is divided into two units, both of which deal with supervised occupational experience programs in agriculture. Unit A, planning occupational experience programs, covers five problem areas: understanding the value of an occupational experience program, selecting occupational experience programs, developing training agreements and training plans, planning for improvement projects and supplementary practices, and keeping agricultural records. Unit B covers one problem area: summarizing and analyzing farm records. For each of the problem areas the guide provides: situations, teacher objectives, an introduction, group objectives, problems and concerns, references, visual aids, special events, applications and evaluations, and content summaries. The content summaries provide handouts and transparency masters for supplementing the problems and concerns section and for explaninng the material in the references. (Author/JR)

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LD 12096

SUPERVISED OCCUPATIONAL EXPERIENCE PROGRAMS

Curriculum Material
for
Agricultural Science and Mechanics I & II

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION

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A Virginia Polytechnic Institute and State University
Extension Division
Education Field Service Publication

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Course: Agricultural Science and Mechanics I

Area: Orientation, Guidance, Rural and Urban Living

Activity: Supervised Occupational Experience Programs in Agriculture

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Course: Agricultural Science and Mechanics II

Area: Orientation, Guidance, Rural and Urban Living

Activity: Supervised Occupational Experience Programs

Unit B: Expanding and Improving the Occupational Experience Program

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Suggestions for Using These Materials

This publication contains a set of lesson outlines for use by teachers of Agriculture as a guide in developing their teaching plan. The lessons are considered sequential, with the exception of the lesson for Ag. II, and should be taught as a unit.

The various sections of the outline are intended to be used as follows:

Situation: The teacher will need to develop the local situation as appropriate to the problem area, considering such items as student concern with the problem area, student background, importance of the problem area in the community and occupations for which a knowledge of the content is important.

Teacher Objectives: These are for the teacher's use only. They indicate the abilities the teacher wishes the students to develop as a result of the study of the problem area.

Introduction: This section provides for introducing the lesson, helping the students recognize the problem or problems, giving the teacher an indication of what the students already know, stimulating interest of students in the content, setting the stage for establishing student objectives and problems, and giving students an opportunity to describe their experiences related to the content area. Techniques which could be used are discussions, movies, slides, film strips, field trips, etc.

Group Objectives: These are the students' reasons for studying the problem area and are developed with the group. Students should bring out why they should be knowledgeable concerning the problem area. The objectives listed in the outline are anticipated student responses and objectives and are listed in somewhat general terms. Student objectives may be more specific according to their desires or needs.

Problems and Concerns: This section reflects the things that students should know in order to accomplish their objectives. They should be drawn from the group. The teaching outline contains a list of problems that students would likely suggest. There are, no doubt, others that should be listed.

After the problems have been listed, the teacher should lead the students in a discussion of each problem taking the problems one at a time or in logical groups. He should find out what the students know, conduct supervised study on the items that they do not know or use some other appropriate teaching technique for helping students receive needed information. These teaching techniques may be resource persons, lecture, panel, field trips, films, slides, and other visual aids. He should then lead the students in a final discussion and drawing of conclusions appropriate to the local situation and to supervised agricultural occupation experience programs.

Reference: A suggested list of references is included for each problem area. Some of these are for teacher use and some for student use. This is not a complete list and the teacher should use all available references in the study of this unit.

Visual Aids: The outline contains a list of suggested visual aids for use in studying this problem area. Teachers will need to review other available materials and develop additional aids as needed.

Special Events: Suggestions are made for special events and activities. References listed contain suggestions for many activities which should be considered by the teacher in teaching this unit.

Application and Evaluation: A few suggestions are made for application and evaluation. Teachers should adjust these or use means appropriate to the situation. The suggested list of questions may be used in developing problems and concerns, for studying the content, or for testing.

Content Summary: This section is for use only by the teacher. It is related to the "Problems and Concerns" section and contains a summary of the material in the references. It is not intended to be all inclusive. The teacher will need to supplement this material when teaching the unit.

The content summary material in this publication is in the form of handouts (H) and transparency masters (T) to reduce teacher preparation time and facilitate teacher expansion of the unit.

Unit: Supervised Occupational Experience Programs

Problem Area: What is the value of having an occupational experience program?

Situation for the unit (local):

Teacher objectives:

1. The student will be able to identify reasons for having a supervised occupational experience program.
2. The student will be able to define what a supervised occupational experience program is.
3. The student will be able to discuss the characteristics of a good supervised occupational experience program.

Group objectives:

Students will have overt or covert concerns about:

1. Will it make me money?
2. Will I really learn because of it?
3. Gaining a sense of accomplishment.
4. Gaining recognition for managing their own affairs.
5. Gaining personal pride for a job well done.
6. Attaining long range financial and educational goals.
7. Will it help me with my future career and personal life?
8. Can I gain personal honors (FFA) and recognition for my efforts?

Introduction:

(1) Select a student from your chapter, or a neighboring one, who has developed an outstanding supervised occupational experience program to visit your classroom to tell how he got started and progressed with his program. Be sure his attitude will exhibit his enthusiasm for using supervised agricultural experience programs to achieve goals. If you can, choose a student from a rather typical beginning who has progressed.

(2) Arrange a field trip to see supervised occupational experience programs in operation at a student's farm, in the laboratory or greenhouse, a student placed on a farm or at a business training center.

Problems and Concerns of Students:

1. What is a supervised occupational experience program?
2. Why should I have a supervised occupational experience program?
3. What kind of a supervised occupational experience program can I have?
4. How can I be sure I have a good occupational experience program?
5. How does the supervised occupational experience program relate to the total program of vocational agribusiness?
6. Who will help me in my supervised occupational experience program?

References:

Experience Programs for Learning Vocations in Agriculture, Harold Binkley and Carsie Hammond, (Danville: The Interstate), 1970.

Farming Programs for Students in Vocational Agriculture, H. Binkley and Carsie Hammond, (Danville: The Interstate).

Handbook on Agricultural Education in Public Schools, Phipps, L. J., (Danville: The Interstate).

Visual Aids:

Transparencies
Overhead projector
Bulletin board

Special Events and Activities:

1. Take a field trip to observe good supervised occupational experience programs. (See Introduction)

2. Have a student discuss his supervised occupational experience program. (See Introduction)

3. Prepare a bulletin board or exhibit to display pictures and record books of good supervised occupational experience programs.

4. Use similar displays for a featured "Program of the Month" throughout the year.

5. Employ a "Big Brother" approach for encouragement of supervised occupational experience programs.

6. Develop an exhibit of record books.

7. Develop and use a slide set of local supervised occupational experience programs.

8. Show one of the films on the Four Star Farmers.

9. Have students read stories of good programs from the National Future Farmer.

10. Display a scrapbook of pictures of students with their supervised occupational experience programs.

11. Consider inviting young and adult agribusiness men as resource persons for additional presentations.

12. Conduct a "Parent's Night" program to familiarize parents with supervised occupational experience programs.

13. Conduct a group tour of students occupational experience programs.

14. If beginning students have not been visited previously at home, do so as soon as possible.

Application and Evaluation:

The teacher's beliefs and enthusiasm are very contagious. Spread your faith in using supervised occupational experience programs as a learning devise to encourage your students.

Example evaluative questions:

1. What is a supervised occupational experience program?

2. What are four kinds of supervised occupational experience programs?

3. What are the advantages of having a supervised occupational experience program?

Summary:

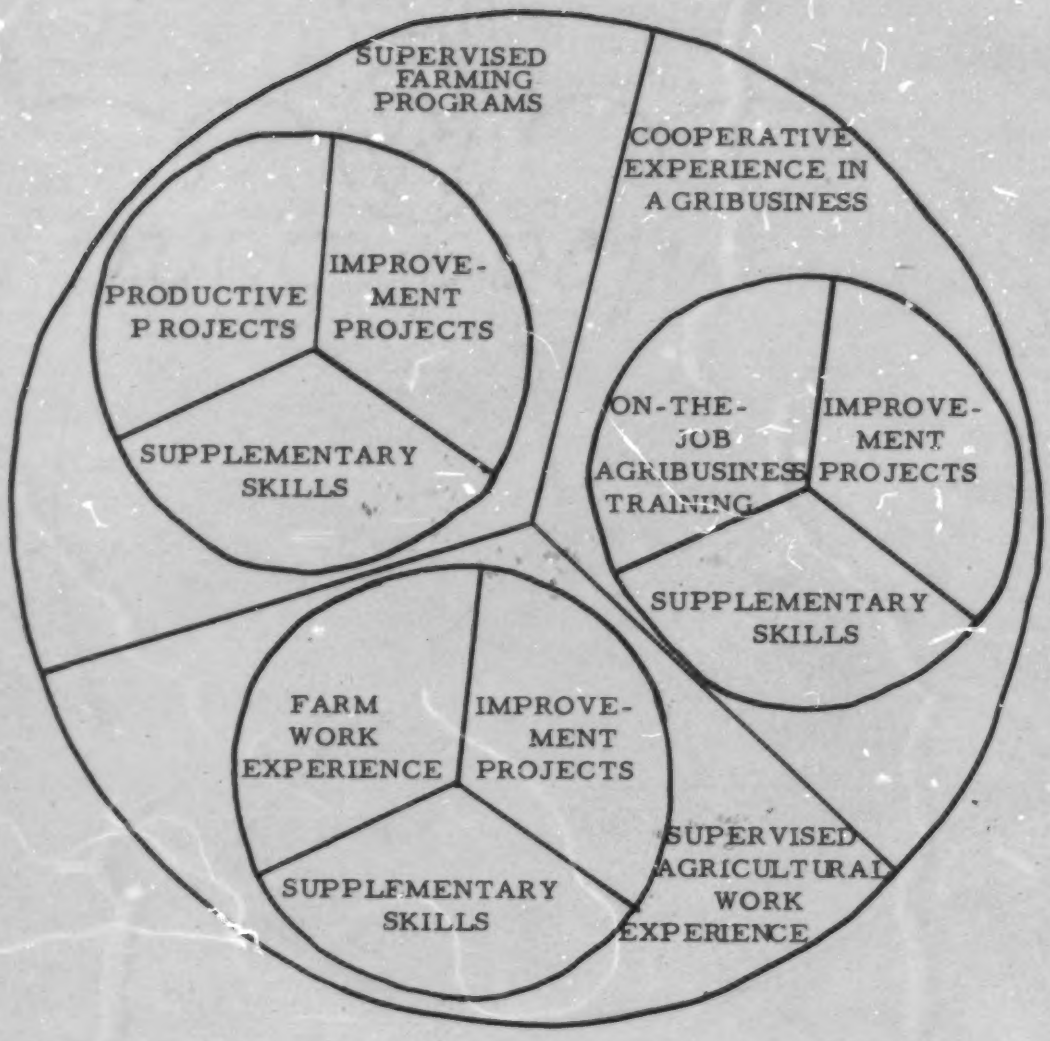
DEFINITION
SUPERVISED OCCUPATIONAL EXPERIENCE PROGRAM

CONSISTS OF ALL THE PRACTICAL ACTIVITIES OF EDUCATIONAL VALUE CONDUCTED OUTSIDE OF CLASS FOR WHICH INSTRUCTION AND SUPERVISION ARE PROVIDED TO THE STUDENT BY THEIR TEACHERS, PARENTS, EMPLOYERS, AND OTHERS.

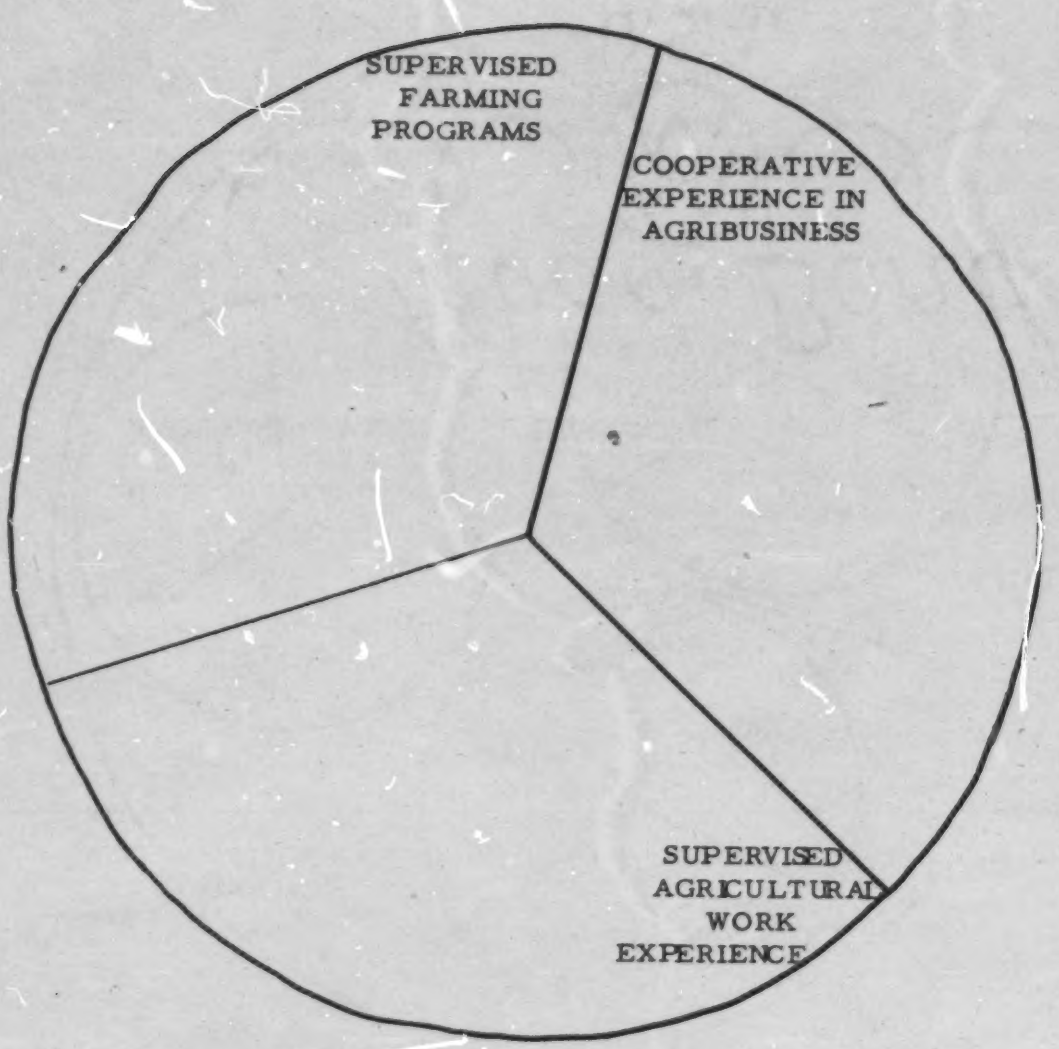
ADVANTAGES OF HAVING A SUPERVISED OCCUPATIONAL EXPERIENCE PROGRAM

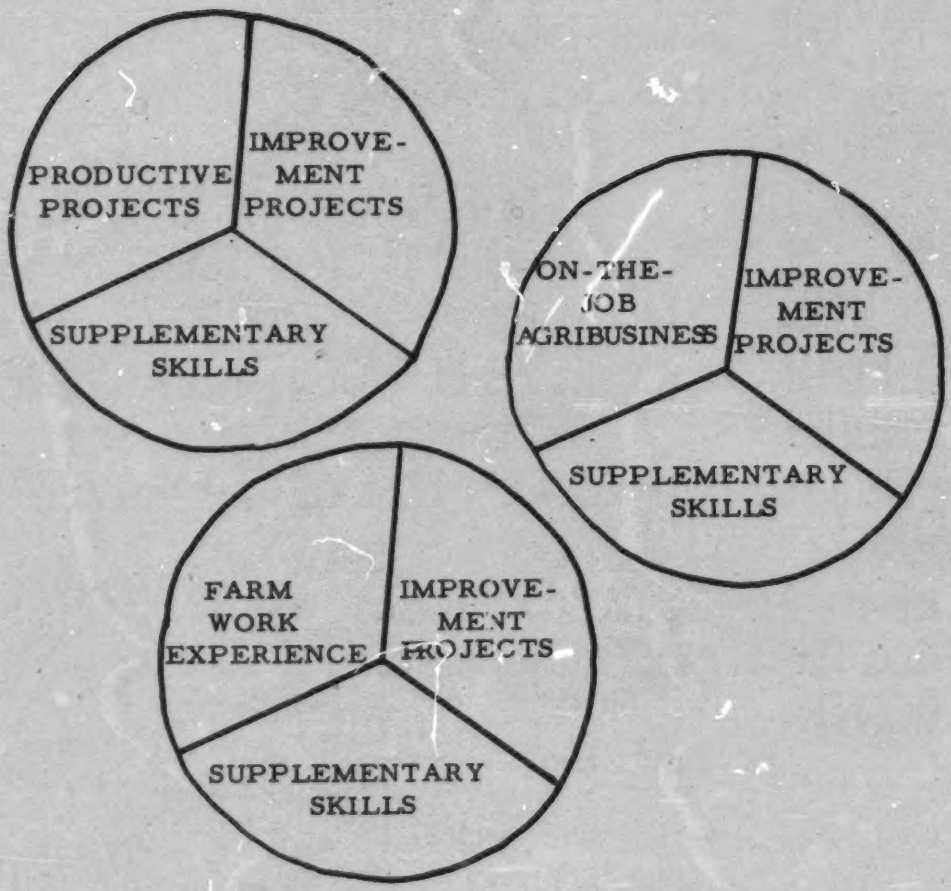
1. HELP THE STUDENT LEARN - THE MOST PRACTICAL AND EFFICIENT WAY TO LEARN IS TO LEARN BY DOING
2. PROVIDES EXPERIENCES IN THE WORLD OF WORK
3. LETS THE STUDENT BE ON HIS OWN
4. EXPOSES HIM TO TRUE-LIFE SITUATIONS
5. EARN MONEY WHILE IN SCHOOL
6. APPLIES THEORY TO PRACTICE
7. PROVIDES EXPERIENCE IN RECORD KEEPING
8. LEARN HOW TO WORK WITH PEOPLE
9. LEARN TO MANAGE AND SAVE MONEY
10. DEVELOP SKILLS AND ABILITIES
11. DEVELOP DECISION-MAKING ABILITY
12. HELP TO BECOME ESTABLISHED IN BUSINESS
13. HELPS IMPROVE HOME AND COMMUNITY
14. PROVIDES OPPORTUNITY TO EXPLORE OCCUPATIONS
15. BASIS FOR FFA DEGREES AND AWARDS

TYPES OF SUPERVISED OCCUPATIONAL EXPERIENCE PROGRAMS



TYPES OF SUPERVISED OCCUPATIONAL EXPERIENCE PROGRAMS




PRODUCTIVE PROJECTS
IMPROVE-MENT PROJECTS
SUPPLEMENTARY SKILLS
ON-THE-JOB AGRIBUSINESS
IMPROVE-MENT PROJECTS
SUPPLEMENTARY SKILLS
FARM WORK EXPERIENCE
IMPROVE-MENT PROJECTS
SUPPLEMENTARY SKILLS

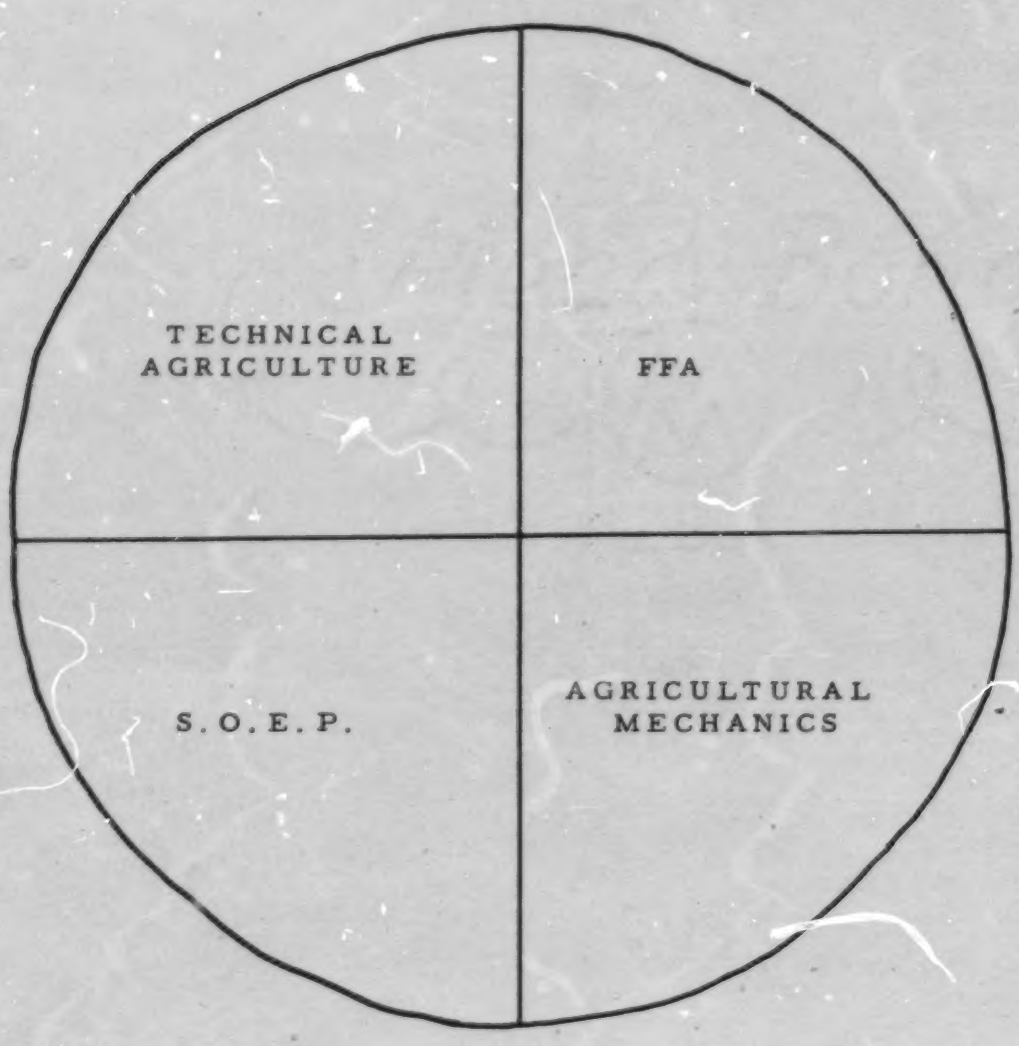
CHARACTERISTICS OF A GOOD SUPERVISED OCCUPATIONAL EXPERIENCE PROGRAM

1. IT SHOULD BE OF SUFFICIENT SCOPE AND DIFFICULTY TO BE CHALLENGING TO THE STUDENT.
2. PROVIDE FOR DEVELOPMENT OF NEEDED ABILITIES
3. PROVIDE FOR STUDENT TO MAKE A SATISFACTORY PROFIT OR WAGE.
4. CONTAIN BALANCE OF PRODUCTIVE PROJECTS AND/OR WORK EXPERIENCE. IMPROVEMENT PROJECTS. AND SUPPLEMENTARY SKILLS.
5. PROVIDE FOR ADOPTION OF APPROVED PRACTICES.
6. LEAD TO ESTABLISHMENT IN AN AGRICULTURAL OCCUPATION.
7. CONTRIBUTE TO FAMILY LIVING.
8. COMMAND RESPECT OF THE STUDENT, PARENTS AND COMMUNITY.
9. PROVIDE OPPORTUNITIES FOR EXPANSION.

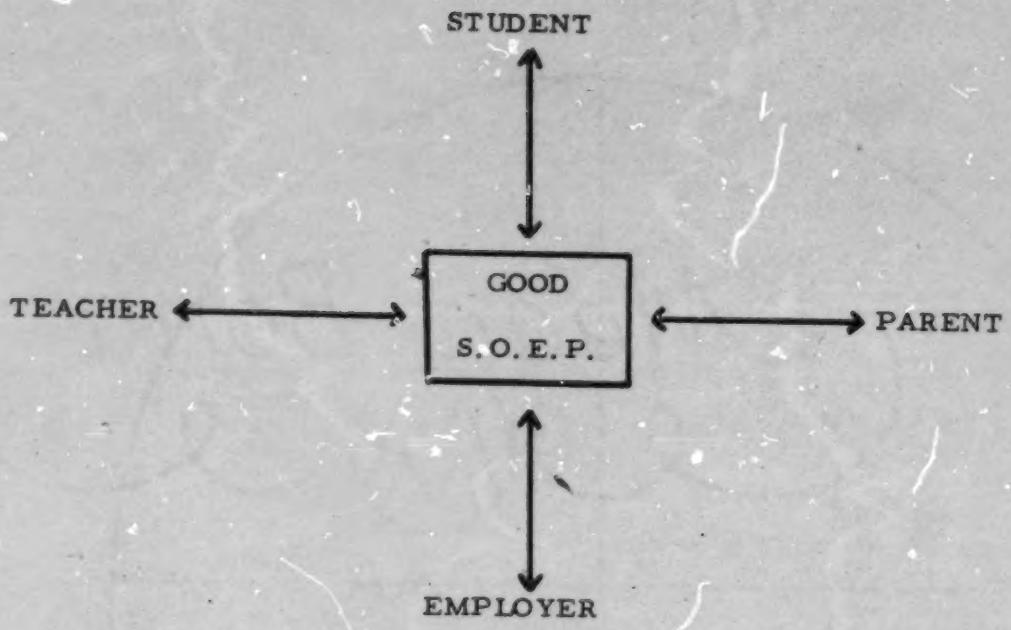
SOEP: AG. ED. RELATIONSHIP

(SOEP = SUPERVISED OCCUPATIONAL EXPERIENCE PROGRAM)

S.O.E.P. IS ONE OF THE PARTS OF THE TOTAL PROGRAM.



COOPERATORS FOR GOOD SUPERVISED OCCUPATIONAL EXPERIENCE PROGRAM



WHAT EACH PARTY DOES

EMPLOYER:

1. PROVIDES OPPORTUNITY TO LEARN
2. INSTRUCT STUDENT ON THE JOB
3. HELP TEACHER APPRAISE STUDENT
4. MEET WITH STUDENT AND TEACHER
5. COOPERATE WITH OTHER PARTIES

PARENTS:

1. PROVIDE OPPORTUNITY TO LEARN
2. COOPERATE WITH OTHER PARTIES
3. MEET WITH STUDENT AND TEACHER
4. PROVIDE ENCOURAGEMENT

TEACHER:

1. VISIT THE STUDENT ON THE FARM OR JOB
2. PROVIDE CLASSROOM AND EXTRA-CURRICULAR INSTRUCTION
3. SEE THAT STUDENT GETS MOST OUT OF S.O.E.P.
4. SEE THAT CLASSROOM INSTRUCTION IS APPLIED

STUDENT:

1. WORK AND TRY HARD
2. FOLLOW INSTRUCTIONS
3. KEEP RECORDS AND DEVELOP PLANS
4. TAKE ADVANTAGE OF LEARNING EXPERIENCE
5. WORK SAFELY
6. STUDY TECHNICAL MATERIAL
7. INCREASE SIZE OF S.O.E.P.

Unit: Supervised Occupational Experience Programs

Problem Area: What type of agricultural occupational experience program should I have?

Situation for the unit (local):

Teacher objectives:

1. The student will be able to list the types of experience programs in agricultural education.
2. The student will be able to tentatively assess and explore his career and vocational aspirations, and develop plans for career preparation.
3. The student will be able to distinguish between a productive project, an improvement project, and supplementary farm practices.

Group objectives:

Students will have concerns overt and covert concerns about:

1. Will it make me money?
2. Will it be worthwhile educationally?
3. Will it interfere with home or school activities?
4. Will I have a fair, pleasant, and helpful employer?
5. Must I buy tools?
6. What part of the program am I to be responsible for?
7. Will I have to provide my own transportation?
8. Will I be able to do the things asked of me?

Introduction:

(1) Discuss with students the agricultural industry. Have students think of examples of jobs under each of the following headings: Agricultural Production, Ag. Supplies and Services, Ag. Mechanization, Horticulture, and Natural Resources. Where are the good paying jobs? Where are the interesting jobs? What do you want to do?

Problems and Concerns of Students:

1. What do you want to do with your life?
2. What jobs exist in agriculture for which I could qualify?
3. What is my potential? What am I good at doing?
4. How can vocational agriculture help me reach my goals?

References:

An Introduction to Agricultural Business and Industry, Weyant, Hoover, and McClay. The Interstate.

An Introduction to Agricultural Business and Industry, Teacher's Guide, Weyant, Hoover, and McClay. The Interstate.

"Vocational Agriculture Interest Inventory," The Interstate.

Experience Programs for Learning Vocations in Agriculture, Binkley and Hammonds. The Interstate.

Careers in Agribusiness and Industry. Stone. The Interstate.

Handbook of Agricultural Occupations. Hoover. The Interstate.

Visual Aids:

Transparencies
Overhead projector
Projector

Special Events and Activities:

1. Have students prepare two lists, one of things they like to do and the other of things they dislike doing. Discuss some of these and see if students can see how these would affect career choices.

2. Have students complete the handout "Studying Yourself." Then, see if students can understand how a better knowledge of their personal characteristics will help in choosing a career.

3. Invite a guidance counselor in as a guest speaker to explain the guidance program.

4. Recommend that the students visit with the guidance counselor for a frank appraisal of their abilities and interests as evidenced by tests and other information in the school files.

5. Show a movie, film strip, or slide series on "Careers in Agriculture", or "Making Career Choices".

6. Have students conduct an occupational interview.

Application and Evaluation:

The choosing of a career is the most important decision young people have to make. In a serious day and age, they take the matter seriously. Teachers can be of tremendous assistance in helping students make career decisions.

Unfortunately, decisions are not reached spontaneously by all students at a given age. Most vocational educators operate under the career theory that students go through three stages in career choices: fantasy (youth), tentative (adolescence?), and realistic (?). The age differentiation varies with individuals. Many indications of career interests as expressed by students will be tentative. However, the teacher can assist in making more realistic choices and eliminating inappropriate areas.

Example evaluation questions:

1. Which of the following jobs are related to agriculture?

   (a check list)

2. Define a productive project, supplementary farm project, and an improvment project.

3. What things are concerns of high school students about choosing an occupation?

Summary:

SOME CHARACTERISTICS OF HIGH SCHOOL STUDENTS CONCERNING OCCUPATIONS

1. NEEDING TO DECIDE ON OCCUPATIONS.

2. WANTING ADVICE ON WHAT TO DO AFTER SCHOOL.

3. WANTING TO LEARN TRADES.

4. TRYING TO CHOOSE THE BEST SUBJECTS TO PREPARE FOR JOBS.

5. NEEDING TO KNOW MORE ABOUT OCCUPATIONS.

6. NEEDING TO DECIDE WHETHER OR NOT TO GO TO COLLEGE.

STUDYING YOURSELF

Answer these questions just as you feel about them. Do not try to answer to please your parents or a teacher.

A. List your first, second and third choice of all subjects you have ever studied in school.
1. _____ 2. _____ 3. _____

B. List three subjects you like the least.
1. _____ 2. _____ 3. _____

C. List the three subjects where you did your best work.
1. _____ 2. _____ 3. _____

D. List the three subjects where you did the poorest work.
1. _____ 2. _____ 3. _____

E. What school activities outside of classwork do you especially like?
1. _____ 2. _____ 3. _____

F. What work outside of school that you have done interests you?
1. _____ 2. _____ 3. _____

G. What do you like to do for amusement? _____
_____

H. What are your hobbies? _____

I. Are there any hobbies, amusements, jobs or studies that you have not had a chance to try that seem of particular interest to you? List them.
_____

J. Of all the things you do, what do you feel you do best?
_____ Why? _____

K. Has anyone ever said that you were good at something, or that you had done a good job at something, or that you have a talent for something? What are these things? _____

L. Do you think they were right? _____

M. Have aptitude tests, grades or achievement tests indicated that you have an area in which you perform well? _____

N. Do you feel that you have any physical limitations that might limit your choice of occupations? _____
_____

O. Do you feel that you get along well with other people? _____
_____

PERSONALITY SELF-RATING SCALE

Circle appropriate number following each trait. Four is outstanding, three is above average, two is average, one is poor. Total your score below.

1.	Do I maintain a well groomed appearance?	1	2	3	4
2.	Do I have a pleasing voice?	1	2	3	4
3.	Is my posture alert and poised?	1	2	3	4
4.	Is my disposition cheerful?	1	2	3	4
5.	Do I make friends easily?	1	2	3	4
6.	Do I exert a positive leadership?	1	2	3	4
7.	Am I generally thoughtful of the feelings of others?	1	2	3	4
8.	Is my enthusiasm sincere and contagious?	1	2	3	4
9.	Do I persevere until I achieve success?	1	2	3	4
10.	Am I sincere in my interest in other people?	1	2	3	4
11.	Am I ambitious to get ahead?	1	2	3	4
12.	Do I get along well with others?	1	2	3	4
13.	Do I react constructively to criticism?	1	2	3	4
14.	Do I remember names and faces?	1	2	3	4
15.	Am I punctual on all occasions?	1	2	3	4
16.	Do I have and evidence a spirit of cooperation?	1	2	3	4
17.	Am I free from prejudice?	1	2	3	4
18.	Do I know how people react in most situations?	1	2	3	4
19.	Am I generally a good listener?	1	2	3	4
20.	Do I refuse to allow what other people say to hurt me?	1	2	3	4
21.	Can I criticize without giving offense?	1	2	3	4
22.	Do I usually like people for what they are, or do I wait to see if they like me?	1	2	3	4
23.	Do I enjoy being part of a group?	1	2	3	4
24.	Am I reliable?	1	2	3	4
25.	Can I adapt myself to all situations?	1	2	3	4
26.	Am I easily discouraged?	1	2	3	4
27.	Do I apply myself to the problems of each day?	1	2	3	4
28.	Can I make a decision quickly and accurately?	1	2	3	4
29.	Am I loyal to my superiors and associates?	1	2	3	4
30.	Do I try to get the other fellow's point of view?	1	2	3	4
31.	Am I neat and clean in my work as well as my personal appearance?	1	2	3	4
32.	Do I know where I make my mistakes and do I admit them?	1	2	3	4
33.	Am I looking for opportunities to serve others better?	1	2	3	4
34.	Am I following a systematic plan for improvement and advancement?	1	2	3	4
35.	Can I accept honors and advancements and yet keep my feet on the ground?	1	2	3	4
36.	Am I playing the game of life honestly and fairly with myself, my fellow members and others with whom I work?	1	2	3	4

TOTAL SCORE. . .

And now, to evaluate your scores--if your score totaled over 100, your personality rating is definitely superior. And, if you've been honest with yourself, you are among the people who are most likely to succeed. 90-100 is above average. 75-90 is average. Below 75 shows plenty of room for improvement. How did you rate?

Careers I

OCCUPATIONAL INTERVIEW

Name of Job_____

What does the worker do?_____

_____

What are the working conditions?_____

_____

What education is required?_____

Is any special training necessary?_____If so what?_____

_____

Is physical strength necessary?_____Is it necessary to be handy with tools?_

_____With numbers?_____Communicative skills?_____

What are the advantages of this job?_____

_____

What are the disadvantages?_____

_____

What is the present need for workers in this field?_____

_____In the future?_____

_____

What dress is required?_____

Where are jobs available?_____

Any other special requirements?_____

What are the starting wages?_____What can be expected in the

future?_____

How do you get started in this job?_____

_____

HOW AG. ED. CAN HELP YOU!

REMEMBER - 3 TYPES OF EXPERIENCE PROGRAMS:

1. Supervised Farming Programs
2. Cooperative Experience in Agribusiness
3. Supervised Agricultural Work Experience

+ PLUS - GAIN EXPERIENCE FROM SUPPLEMENTARY PRACTICES (SKILLS):

"A supplementary skill is any of the 'short-time' jobs or skills that are proven good practices and that are 'in addition' to the ones performed by a student in connection with his improvement projects, productive projects, or training plan."

+ PLUS - GAIN EXPERIENCE FROM IMPROVEMENT PROJECTS:

An improvement project is an undertaking involving a series of jobs designed to improve a major phase of the home, farm, or school laboratory. They produce no immediate income but improve the real estate value of the home or farm, improve the efficiency of the business, or the living conditions of the family.

COMBINATIONS FOR OCCUPATIONAL EXPERIENCE

I. SUPERVISED FARMING PROGRAM
   A. PRODUCING ENTERPRISES - PRODUCTION OF PLANTS OR LIVESTOCK FOR PROFIT BY THE STUDENT IN WHICH HE HAS AN INTEREST AND RESPONSIBILTY.
   B. IMPROVEMENT PROJECTS
   C. SUPPLEMENTARY PROJECTS

II. SUPERVISED AGRICULTURAL WORK EXPERIENCE
   A. ACTUAL EMPLOYMENT IN AGRICULTURE, GENERALLY FARM RELATED.
   B. IMPROVEMENT PROJECTS
   C. SUPPLEMENTARY PROJECTS

III. COOPERATIVE EXPERIENCE IN AGRIBUSINESS
   A. ACTUAL EXPERIENCES "ON-THE-JOB" IN COOPERATION WITH AN EMPLOYER.
   B. IMPROVEMENT PROJECTS
   C. SUPPLEMENTARY PROJECTS

STEPS IN PLANNING AN OCCUPATIONAL EXPERIENCE PROGRAM

1. IDENTIFY YOUR INTEREST AREA IN AGRICULTURE

2. ASSESS YOUR QUALIFICATIONS IN TERMS OF YOUR INTERESTS

3. SELECT APPROPRIATE TYPE OF EXPERIENCE PROGRAM TO MEET THE ENTRANCE NEEDS FOR YOUR AREA OF INTEREST
   - A. PREPARE BUDGET
   - B. SECURE FACILTIES
   - C. DEVELOP TRAINING AGREEMENTS
   - D. DEVELOP TRAINING PLANS

4. SELECT IMPROVEMENT PROJECTS

5. SELECT SUPPLEMENTARY PROJECTS

FINANCING THE STUDENT'S PRODUCTIVE ENTERPRISES

1. STUDENT'S OWN RESOURCES
2. PARENT OR OTHER INDIVIDUALS
3. BANK LOANS
4. PRODUCTION CREDIT ASSOCIATION LOANS
5. FFA CHAPTER LOANS

HOW TO GET A LOAN:

1. DEVELOP A BUDGET OF ANTICIPATED EXPENSES AND INCOME
2. MAKE A LOAN APPLICATION
3. MAY NEED A PARENT OR SOMEONE TO CO-SIGN
4. ESTABLISH A DEBT REPAYMENT PLAN

MAJOR AREAS TO PLAN WORK EXPERIENCE PROGRAMS

1. PRODUCTION AGRICULTURE

2. AGRICULTURAL PROCESSING AND MARKETING

3. AGRICULTURAL MACHINERY SERVICE

4. ORNAMENTAL HORTICULTURE

5. AGRICULTURAL BUSINESS

6. CONSERVATION AND FORESTRY

Labor Laws and Ag. Work Experience

How do labor laws affect opportunities for work experience in agriculture?

Over the past several years the U.S. Department of Labor has developed labor laws for the protection of the individual worker. These laws include a list of hazardous occupations in agriculture in which students below the age of sixteen (16) years of age cannot be employed. These standards do not apply to a minor under 16 years of age employed by his parent or by a person standing in the place of his parent on a farm owned or operated by such persons.

What are the occupations in Agriculture considered to be hazardous to youth under the age of 16?

Occupations in Agriculture particularly hazardous for the employment of youth below the age of 16 are:

(1) Handling or applying anhydrous ammonia, organic arsenic herbicides, organic phosphate pesticides, halogenated hydrocarbon pesticides, or heavy-metal fungicides, including cleaning or decontamination equipment used in application or mixing of such chemicals.

(2) Handling or using a blasting agent. For the purpose of this subparagraph, the term "blasting agent" shall include explosives such as, but not limited to, dynamite, black powder, sensitized ammonium nitrate, blasting caps, and primer cord.

(3) Serving as flagman for aircraft.

(4) Working as -
- (a) Driver of a truck or automobile on a public road or highway.
- (b) Driver of a bus.

(5) Operating, driving, or riding on a tractor (track or wheel) over 20 belt horsepower, or attaching or detaching an implement or power-take-off unit to or from such tractor while the motor is running.

(6) Operating or riding on a self-unloading bunk feeder wagon, a self-unloading bunk feeder trailer, a self-unloading forage box wagon, a self-unloading forage box trailer, a self-unloading auger wagon, or a self-unloading auger trailer.

(7) Operating or riding on a dump wagon, hoist wagon, fork lift, rotary tiller (except walking type), or power-driven earthmoving equipment or power-driven trenching equipment.

(8) Operating or unclogging a power-driven combine, field baler, hay conditioner, corn picker, forage harvester, or vegetable harvester.

(9) Operating, feeding, or unclogging any of the following machines when power-driven: Stationary baler, thresher, huller, feed grinder, chopper, silo filler, or crop dryer.

(10) Feeding materials into or unclogging a roughage blower or auger conveyor.

(11) Operating a power-driven post-hole digger or power-driven post driver.

(12) Operating, adjusting, or cleaning a power-driven saw.

(13) Felling, bucking, skidding, loading, or unloading timber with a butt diameter of more than 6 inches.

(14) Working from a ladder or scaffold at a height over 20 feet.

(15) Working inside a gas-tight type fruit enclosure, gas-tight type grain enclosure or gas-tight type forage enclosure, or inside a silo when a top unloading device is in operating position.

(16) Working in a yard, pen, or stall occupied by a dairy bull, boar, or stud horse.

<u>What provisions are made for vocational agriculture students who have been trained in safe operation of equipment?</u>

In 1969, provisions were made for a change to be made in the area of hazardous occupations for youth in agriculture. The change applies to youth who hold certificates verifying that they have successfully completed vocational agriculture training programs in safe tractor operation or safe farm machinery operation approved by the U.S. Department of Health, Education, and Welfare. Successful completion of such programs includes passing both a written and a practical test.

The Division of Vocational and Technical Education has developed two distinct safety programs. An outline of the provisions of these programs follows:

1. The first program is a safety training course on the use, care, and operation of farm tractors. When students have successfully completed this program they will:

   a. Be familiar with the normal working hazards in agriculture.

   b. Have satisfactorily completed a 15-hour program, such as the "Vocational Agricultural Training Program in Safe Tractor Operation" conducted by certified vocational agriculture instructors.

   c. Have satisfactorily completed a 15-hour training program which includes the following units from the Vocational Agriculture Training Program in Safe Tractor Operation outlined by the Division of Vocational and Technical Education of the U.S. Department of Health, Education, and Welfare, conducted by a certified vocational agriculture instructor:

      (1) Pre-operating procedures

      (2) Adjustments to meet operating needs

      (3) Starting and stopping tractor engine

      (4) Controlling movement

      (5) Hitching to tractor operated equipment

      (6) Operating under field conditions

      (7) Operating under highway conditions

      (8) Unhitching equipment

      (9) Refueling

   d. Have received a certificate, signed by the student's parent or guardian, and the vocational agriculture instructor who conducted the training, stating that the student meets all requirements listed in items (a) through (c) above.

2. The second program dealing with the safe operation of the other types of farm machinery would exempt vocational agricultural students who successfully complete the following requirements:

   a. Are familiar with the normal working hazards in agriculture.

b. Have received a certificate signed by a certified vocational agriculture instructor to the effect that all requirements in Number 1 above, have been met.

c. Have satisfactorily completed a 10-hour training program which includes the following units from the Vocational Agriculture Training Program in Safe Farm Machinery Operation outlined by the Division of Vocational and Technical Education of the U.S. Department of Health, Education, and Welfare, conducted by a certified vocational agriculture instructor:

(1) Importance of Farm Machinery Safety

(2) Safety Practices Common to all Farm Machinery Operation

(3) Safety in Tillage Operations

(4) Seeding Equipment

(5) Handling Agricultural Chemicals

(6) Forage Equipment

(7) Harvesting Equipment

(8) Wagons and Trailers

(9) Fork Lift Operation

(10) Augers, Conveyors and Portable Elevators

(11) Farm Equipment on Highways

d. Have satisfactorily passed a written examination developed to assure that students are familiar with operational procedures.

e. Have satisfactorily passed a Farm Machinery Operation, Safety and Skill Test, designed to test the student's ability to operate farm machinery in a safe and proper manner under simulated working conditions.

f. Have received a certificate, signed by the student's parent or guardian, and the vocational agriculture instructor who conducted the training, stating that the student meets all requirements listed in items (a) through (e) above.

Successful completion of the above cited programs would allow the student to participate in hazardous occupations numbers 5, 6, 7, 8, 9 and 10 of the basic order.

In addition a student who is placed on a farm other than his own for supervised agricultural work experience is exempt and may participate in any or all of the hazardous occupations provided that programs one and two are completed and that the following additional conditions are met:

a. The student is enrolled in a bona-fide vocational agriculture program under a recognized state or local education authority or in a substantially similar program in a private school.

b. The student is employed under a written agreement which provides that:

. . Work in the hazardous occupations shall be incidental to the training.

. . Work in the hazardous occupations is intermittent, for short periods of time, and under the supervision of a qualified and experienced person.

. . Safety instruction has been given by the school and will be correlated by the employer with on-the-job training.

. . A training outline showing progressive work processes to be performed on the job has been prepared.

. . The agreement contains the name of the student, is signed by the employer and a person authorized to represent the school, and a copy is filed with the employer and the school.

How do wage laws affect opportunities for work experience in agriculture?

Federal wage laws require that an employer pay his employees the minimum wage, however, in the case of a student-learner the employer may obtain a minimum wage exemption certificate which allows him to pay a student-learner at a rate of 75% of the minimum wage, based on the rate paid other employees of similar experience and training. These wage laws do not apply to students employed by their own parents on the home farm.

Unit: Supervised Occupational Experience Programs

Problem Area: What is a training agreement or plan?

Situation for the unit (local):

Teacher objectives:

1. The student will be able to distinguish between a training agreement and a training plan.
2. The student will be able to describe the purpose of a training agreement.
3. The student will be able to describe the purpose of a training plan.

Group objectives:

Students will have overt or covert concerns about:

1. What will I have to do if I am on a cooperative work experience program?
2. Who will I be responsible to in a cooperative work experience program?
3. If I have a productive farming program, what sort of agreement will I have to draw up?
4. Who will be responsible for me at work?
5. What are the legal responsibilities of my working?
6. At what times can I carry on my occupational experience program?
7. Will I be able to do the work asked of me?

Introduction:

(1) Your employer, parents, school administrators, and teachers will have important roles to plan and want to insure that you have a successful learning experience. These responsibilities can best be understood and agreed upon by developing a written training agreement.

(2) Having a job does not necessarily insure that a student will receive training. Therefore, a training plan should include a listing of the activities the student should be engaged while working at the training station.

(3) Where are you going to get the money for your productive project? Who will pay for the feed? fertilizer? seed? How will the profits be divided?

Problems and Concerns of Students:

1. What is the difference between a training agreement and a training plan?
2. Who agrees to do what in a training agreement?
3. What things are listed in a training plan?
4. Who makes up the training plan?
5. If I have a farming program, what arrangments should be made before hand?

References:

Experience Programs for Learning Vocations in Agriculture, Binkley and Hammond. The Interstate.

Teacher's Guide for the Effective Use of "Records of Supervised Occupational Experience and Training in Vocational Agriculture. French-Bray. Baltimore.

Records of Supervised Occupational Experience and Training in Vocational Agriculture. French-Bray.

Vocational Agriculture Record Book for Production Agriculture for Calendar Year 19___. French-Bray.

Visual Aids:

Transparencies
Overhead projector

Special Events and Activities:

1. Have students prepare a list of the skills or jobs that a member of the occupation they are interested in must be able to perform.

2. Have students do a task analysis of a person performing a job in the area of their career interest.

3. Distribute sample training agreements and plans other students have used and discuss.

4. Have students review the sample agreements found in record books.

5. Illustrate, with examples, arrangements made in agreements for production agriculture projects.

6. See page 3 of the French-Bray Production Agriculture Record Book for an "Agreement for Students in Production Agriculture."

Application and Evaluation:

It is important that all parties involved in an occupational training program understand exactly what their responsibilities will be.

Example evaluation questions:

1. What are the differences between a training agreement and a training plan?

2. What are the purposes of a training agreement?

3. What are the purposes of a training plan?

Summary:

PURPOSES OF A TRAINING AGREEMENT

1. HELPS ALL PEOPLE INVOLVED KNOW WHAT THEY ARE TO DO.

2. NAMES OF EMPLOYER OR PERSON IN CHARGE OF STUDENT WHILE WORKING.

3. TELLS DURATION OF TRAINING PERIOD.

4. TELLS NUMBER OF HOURS TO BE WORKED.

5. TELLS HOURS OF THE DAY TO BE WORKED.

6. TELLS BEGINNING WAGE.

7. TELLS RESPONSIBILITIES OF STUDENT, PARENT, TEACHER, AND EMPLOYER.

DEFINITION:

TRAINING AGREEMENT: A DOCUMENT THAT LISTS THE TERMS OF EMPLOYMENT OF A STUDENT-LEARNER IN AN APPROPRIATE TRAINING STATION.

SAMPLE TRAINING AGREEMENTS

Since students, employers, parents, school administrators, and teacher-coordinators all have important roles to play to insure that cooperative occupational experience is successful, each should be familiar with his responsibilities. These responsibilities can best be understood and agreed upon by developing a written training agreement. This agreement should be completed as soon as the student is placed in the training station.

What to Include

The following items should be included in a training agreement:

1. Name of employer or person in charge of student while working at the training station.
2. Duration of the training period.
3. Number of hours to be worked per week.
4. Hours of the day occupational experience is to be provided.
5. Beginning wage.
6. Responsibilities of the student.
7. Responsibilities of the parent.
8. Responsibilities of the teacher-coordinator and the school.
9. Responsibilities of the employer.

Sample Training Agreements

A sample training agreement is found on the following page.

An example of a training agreement that also can be very easily adapted to cooperative occupational experience is found in Records of Supervised Occupational Experience and Training in Vocational Agriculture, French-Bray Printing Co., p. 7.

_____ High School
Vocational Agriculture Department

TRAINING AGREEMENT*

Student Trainee_____ Date of Birth_____

Soc. Sec. No._____ Grade_____ Available Work Hours_____

Occupational Objective_____ Training period_____ mos. or weeks

Training Agency_____ Date_____

Address_____ Tel. No._____

Department in which employed_____ Sponsor_____

Parent or Guardian_____ Tel. No: Res._____ Bus._____

Address: Residence_____ Business_____

1. The Student agrees to:

___ Do an honest day's work, understand that the employer must profit from his labor in order to justify hiring him and providing him with cooperative training experience
___ Do all jobs assigned to the best of his ability
___ Be punctural, dependable and loyal
___ Follow instructions, avoid unsafe acts, and be alert to unsafe conditions
___ Be courteous and considerate of the employer, his family, customers and others
___ Keep the records of cooperative training program and make the reports the teacher and the employer require
___ Be alert to perform unassigned tasks which promote the welfare of the business

2. The Parent agrees to:

___ The cooperative training program in the place of business
___ Allow student to work in the store during hours and days shown in Section 5
___ Provide a method of getting to and from work according to the work schedule
___ Assist in promoting the value of the student's experience by cooperating with the employer and teacher when needed
___ Assume full responsibility for any action or happening pertaining to student trainee from the time he leaves school until he reports to his training station.

3. The Teacher, in behalf of the school agrees to:

___ Give systematic instruction at the school enabling the student to better understand and carry out his duties and responsibilities in the training station.
___ Visit the student on the job for the purpose of supervising him to insure that he gets the most out of his cooperative training experience.
___ Work with the employer, student, and parents to provide the best possible training for the student.
___ Use discretion on the time and circumstances chosen for visits.

*Adapted from the 1965 Workshop Report of The Agricultural Occupations Institute held at Oklahoma State University.

Continued from preceding page

4. The employer agrees to:

___ Provide the student with opportunities to learn how to do well many jobs in the business

___ Assign the student new responsibilities only when he is judged able to handle them

___ Train the student, when and where possible, in the ways which he has found desirable in doing his work

___ Assist the teacher on making an honest appraisal of the student's performance

___ Avoid subjecting the student to unnecessary hazards

5. All parties agree to:

___ A period of the cooperative training program which will:

Start in _____
(month)

End in _____
(month)

___ Working hours during the cooperative training program will include:

Days during week _____

Hours during week days _____ to _____

Hours on weekend _____ to _____

___ Discuss misunderstandings or termination of employment before ending employment

___ A beginning wage of _____ per hour.

We, the undersigned, indicate by the affixing of our signatures that we have read and understand the purpose and intent of this training agreement.

Student _____ Employer _____
(signature) (signature)

Address _____ Address _____

Parent _____ Teacher _____
(signature) (signature)

Address _____ Address _____

PURPOSE OF A TRAINING PLAN

1. CONTAINS A LIST OF THE ACTIVITIES IN WHICH THE STUDENT SHOULD BE ENGAGED WHILE IN THE COOPERATIVE PROGRAM.

2. CONTAINS A LIST OF THE SUBJECT MATTER THAT SHOULD BE DEALT WITH IN THE RELATED INSTRUCTION AT SCHOOL.

3. ALLOWS THE STUDENT TO RECORD HIS PROGRESS AND NOTE THOSE SKILLS HE HAS LEARNED.

DEFINITION:

TRAINING PLAN: A LIST OF ACTIVITIES IN WHICH THE STUDENT WILL ENGAGE AT THE TRAINING STATION.

SAMPLE TRAINING PLAN

Ornamental Horticulture

Establishing a Lawn

On-the-Job Training--What the student-learner should do	Progress	Related Instruction--What the student-learner should know	Completed or grade
1. Develop plan for establishing a lawn		1. Steps and procedures planning for a lawn	
2. Rough grade the area			
3. Test soil		3. Procedures in testing soil	
4. Add topsoil		4. Types and characteristics of topsoil	
5. Apply organic matter		5. Types and characteristics of organic matter	
6. Apply fertilizer		6. Types and characteristics of lawn fertilizers	
7. Adjust pH		7. Methods and procedures in adjusting pH of soils	
8. Operate rototiller		8. Characteristics of good seed beds for lawns	
9. Rake to finish grade			
10. Seed grass		10. Methods and procedures in planting a lawn	
11. Plant stolons			
12. Place sod			
13. Water newly established lawns		13. Methods and procedures in watering lawns	

O = observes
P = performed without close supervision
S = performed under close supervision

Unit: Supervised Occupational Experience Programs

Problem Area: Planning for Improvement Projects and Supplementary Practices

Situation for the unit (local):

Teacher objectives:

1. The students will be able to define an improvement project and a supplementary practice.

2. The student will be able, given a list, to differentiate between improvement projects and supplementary practices.

3. The student will be able to select, complete, and record appropriate improvement projects and supplementary practices congruent with his needs and vocational objectives.

4. The student will be able to orally explain the purposes of having improvement projects or supplementary practices.

Group objectives:

Students will have overt or covert concerns about:

1. Who will help me select projects and practices, and who will help me learn as I do them?

2. What is a good improvement project?

3. What is a good supplementary practice?

4. Do farm and non-farm students have to do the same things?

5. What kind of records do I have to keep on them?

6. Will I get credit on my grade for doing them?

Introduction:

(1) Improvement projects and supplementary practices are an important part of an experience program in agricultural education. They provide a means of gaining experiences and learning in areas that may not be directly related to your vocational goals. They can provide a variety of exploratory experiences that will let you sample, and see how you like, various agricultural occupations. Even if your experience program is necessarily limited in scope, these projects and practices can assist you in gaining worthwhile experiences.

(2) Arrange to have a student who is doing a successful job of carrying our improvement projects and supplementary practices report to the class on his experiences.

Problems and Concerns of Students:

1. What is an improvement project?
2. What is a supplementary practice?
3. Who will help me select and complete these projects and practices?
4. What projects and practices are appropriate for non-farm students? farm students?
5. What plans do I have to make?
6. Do I have to keep records on them?

References:

Experience Programs for Learning Vocations in Agriculture, Harold Binkley and Carsie Hammond, (Danville: The Interstate), 1970.

Handbook on Agricultural Education in Public Schools, Phipps, L. J. (Danville: The Interstate).

Improvement Projects in Vocational Agriculture, Ralph J. Woodin, The Department of Ag. Ed., The Ohio State University, Columbus, Ohio, 1971.

Visual Aids: Transparencies
Overhead projector
Slide projector
Bulletin board

Special Events and Activities:

1. Show slides of students conducting improvement projects or supplementary practices.

2. Have a student discuss improvement projects and supplementary practices he has completed, or have a panel of upperclassmen discuss the topics.

3. Construct a bulletin board on the topic of improvement projects and/or supplementary practices using pictures of projects completed or students in action.

4. Using the proficiency awards program of the FFA, illustrate how improvement projects can lead to recognition in such areas as home improvement and forestry.

5. Conduct a tour of improvement projects along with the tour of experience programs.

Application and Evaluation:

Improvement projects and supplementary practices are a fun way to learn. They also can increase the value of property, increase your saleable skills, and make the home surroundings look nicer and be much more liveable.

Example evaluation questions:

1. From the following list mark the improvement projects "I", and the supplementary practices "S".

   a . . . .
   b . . . .
   c . . . .

2. Define an improvement project.

3. Define a supplementary practice.

Summary:

DEFINITIONS (as previously stated)

SUPPLEMENTARY PRACTICES:

A supplementary practice or skill is any of the "short-time" jobs or skills that are proven good practices and that are "in addition" to the ones performed by a student in connection with his improvement projects, productive projects, or training plan.

IMPROVEMENT PROJECTS:

An improvement project is an undertaking involving a series of jobs designed to improve a major phase of the home, farm, or school laboratory. They produce no immediate income but improve the real estate value of the home or farm, improve the efficiency of the business, or the living conditions of the family.

ADVANTAGES

1. STUDENT CAN GAIN EXPERIENCE IN A WIDE VARIETY OF AGRICULTURAL OPERATIONS.
2. CAN HELP YOU SELECT AN AGRICULTURAL CAREER.
3. PROVIDE REAL LIFE SITUATIONS FOR LEARNING.
4. CAN HELP PARENTS AND STUDENTS COOPERATE.
5. LET STUDENT USE CLASSROOM TEACHING.
6. KEEP STUDENT IN CONTACT WITH AGRICULTURE IN THE COMMUNITY.
7. PROVIDE A WIDE VARIETY OF OPPORTUNITIES STUDENTS MIGHT NOT GET OTHERWISE.

SELECTING IMPROVEMENT PROJECTS AND SUPPLEMENTARY PRACTICES

1. SELECT THEM IN THE FALL. BUT ALLOW ROOM FOR ADDITIONS

2. SELECT ONES THAT WILL RELATE TO WHAT YOU STUDY THIS YEAR IN AG.

3. SELECT SOME THAT RELATE TO YOUR LONG RANGE PLANS

4. SELECT ONES THAT WILL PROVIDE FOR ADDITIONAL SKILL DEVELOPMENT

GOOD CHARACTERISTICS

1. PROVIDE SOMETHING NEW TO LEARN

2. CONTRIBUTE TO WELL BEING OF THE FAMILY AND HOME

3. GIVE EXPERIENCES YOU WILL NOT GET FROM YOUR EXPERIENCE PROGRAM

4. A SERIES OF RELATED EXPERIENCES RATHER THAN A SINGLE ONE

EXAMPLE IMPROVEMENT PROJECTS FOR NON-FARM STUDENTS

1. Start a home shop
2. Start a home ag. library
3. Start or renovate the home lawn
4. Manage the home lawn
5. Plan, and start, the home landscape
6. Build concrete structures for the home landscape: benches, walks, patios, etc.
7. Construct fences
8. Painting house and other buildings
9. Extending home wiring system
10. Maintain home electric motors
11. Grow a home vegetable garden
12. Produce small fruits: strawberries, raspberries, etc.
13. Extend the home plumbing system
14. Any of the above could be done for others
15. Overhaul the lawn mower
16. Plan and install safety devices for the home

EXAMPLE IMPROVEMENT PROJECTS FOR THE FARM STUDENT

1. Landscape around home farm
2. Build window screens
3. Build yard fence
4. Establish lawn
5. Build addition to home
6. Put in new plumbing
7. Gravel drive way
8. Lay concrete walks
9. Build new well top
10. Glaze windows
11. Build gates
12. Paint buildings
13. Hang farm sign
14. Build farm work bench
15. Establish farm shop
16. Build tool cabinet
17. Install new mail box
18. Build a first aid cabinet
19. Remove old buildings
20. Take soil samples
21. Build creep for young animals
22. Build loading chute
23. Build squeeze chute
24. Install lights in buildings
25. Build shade shelters
26. Clean-up around farmstead
27. Build wooden lot fences
28. Clean fence rows
29. Remove brush from pastures
30. Build livestock equipment
31. Dig and fence pond
32. Paint or treat fence posts
33. Build feeding floors
34. Establish farm orchard
35. Establish wildlife plots
36. Stock ponds with fish
37. Repair fences
38. Roof buildings
39. Plant windbreak
40. Build fuel rack
41. Build cattle guard
42. Concrete trench silo

43. Eradicate noxious weeds
44. Install guttering on buildings
45. Lime field
46. Repair building foundations
47. Repair building siding
48. Rehang doors
49. Install lightening protection
50. Build flood gates
51. Establish bee colonies
52. Set out lawn trees
53. Establish small fruit garden
54. Start a rodent control program
55. Keep farm's records

EXAMPLES OF SUPPLEMENTARY PRACTICES BY AREA

1. BEEF CATTLE

1.1) Have cows tested for T.B. (Vet.)

1.2) Keep records on cows

1.3) Dehorn cattle

1.4) Dehorn calves

1.5) Provide mineral mix

1.6) Vaccinate for bangs (Vet.)

1.7) Treat navels with iodine

1.8) Fit calves for showing

1.9) Treat cows for milk fever

1.10) Castrate or clamp calves

1.11) Treat for bloat

1.12) Spray cattle for flies

1.13) Tatto animals for identification

1.14) Treat cattle for warbles

1.15) Vaccinate calves for Black Leg

1.16) Construct feeding equipment

1.17) Creep feed calves

1.18) Complete registration papers

1.19) Calculate a balanced ration for the animals

1.20) Treat animals for lice, ringworm, pinkeye, warts, etc.

1.21) Install identification tags or chains

1.22) Trim hooves

1.23) Assist cows at calving time

1.24) Assist in butchering an animal

1.25) Remove extra teats from young heifers

2. DAIRY CATTLE

2.1) Select breeding animals

2.2) Clip rear flanks, udder and tail of a milk cow

2.3) Adjust and operate a milking machine

2.4) Strip a dairy cow by hand

2.5) Cool milk properly

2.6) Clean a milking machine

2.7) Test milk for butterfat

2.8) Wash dairy utensils

2.9) Keep production and cost records

2.10) Dehorn a calf

2.11) Train a calf to drink

2.12) Train a calf to lead

2.13) Ear mark by tattoo and/or tag

2.14) Trim hooves

2.15) Treat for warbles

2.16) Ring the bull

2.17) Fit and show an animal

2.18) Plan a good, balanced ration

2.19) Treat for lice

2.20) Treat for scours

2.21) Remove extra teats from young heifers

2.22) Construct dairy feeding equipment

2.23) Construct dairy handling equipment

2.24) Construct and equip a medicine cabinet

2.25) Construct and maintain a record keeping cabinet

3. POULTRY

3.1) Clean a brooder house for young chicks

3.2) Clean and repair a brooder

3.3) Clean and repair chick feeding equipment

3.4) Regulate the heat source for baby chicks

3.5) Feed baby chicks

3.6) Mix a ration for growing chicks

3.7) Identify chick diseases

3.8) Clean a laying flock building

3.9) Select pullets for the laying flock

3.10) Mix a laying ration

3.11) Treat for lice and mites

3.12) Gather eggs

3.13) Clean, grade, and pack eggs

3.14) Properly cool eggs

3.15) Cull the laying flock

3.16) Caponize several cokerels

3.17) Construct a piece of equipment such as a feeder, dropping boards, roosts, nests, catching crates, etc.

3.18) Kill and dress the birds

3.19) Fit and show poultry

3.20) Install night lights in poultry house

3.21) Keep production records on layers

3.22) Keep broiler production on broilers

3.23) Remove and isolate sick birds

3.24) Secure chicks from approved hatcheries

3.25) Debeak birds to control cannabalism

4. SHEEP

4.1) Flush ewes and ram before breeding

4.2) Paint ram's brisket

4.3) Tag sheep

4.4) Assist at lambing time

4.5) Creep feed lambs

4.6) Dock lambs

4.7) Castrate lambs

4.8) Dip sheep

4.9) Shear sheep

4.10) Tie and sack wool

4.11) Drench sheep for worms

4.12) Shear rams before breeding season

4.13) Treat for bloat

4.14) Treat navel cord with iodine

4.15) Trim hooves

4.16) Determine sheep age by teeth

4.17) Fit animal for show

4.18) Balance a ration for sheep

4.19) Build equipment for sheep

4.20) Clip a ewe's udder before lambing

4.21) Teach a lamb to nurse

4.22) Butcher a lamb

4.23) Restore a chilled lamb

4.24) Build lambing pens

4.25) Diagnose and treat pregnancy disease

5. SWINE

5.1) Select breeding animals by inspection

5.2) Remove mature boar's tusks

5.3) Identify insect pests and diseases

5.4) Scrub farrowing pens

5.5) Clean sows before farrowing

5.6) Place guard rails in farrowing pens

5.7) Build farrowing crates

5.8) Place pig brooder in farrowing pen

5.9) Clip pigs needle teeth

5.10) Treat navels with iodine

5.11) Ear notch pigs

5.12) Build a pig creep

5.13) Castrate pigs

5.14) Ring hogs

5.15) Treat for lice and mange

5.16) Give pigs iron shots

5.17) Treat pigs for worms

5.18) Butcher a hog

5.19) Fit a hog for sale or show

5.20) Plan and mix a mineral mix

5.21) Assist sow at farrowing time

5.22) Build a self-feeder, water, breeding or hog crate, or loading chute

5.23) Vaccinate pigs

5.24) Record birth weight of pigs and litter

5.25) Trim feet of animal

6. CROPS AND SOILS

6.1) Treat seeds for diseases

6.2) Plan a rotation

6.3) Fertilize a crop

6.4) Take a soil sample

6.5) Inoculate legumes

6.6) Test soil

6.7) Control insects

6.8) Clean seed

6.9) Scarify seed where appropriate

6.10) Control weeds with chemicals

6.11) Calibrate a sprayer

6.12) Obtain improved varieties

6.13) Apply lime

6.14) Clean grain bins for storage

6.15) Plow under green manure crop

6.16) Seed a field to a desireable winter cover crop

6.17) Lay out contours

6.18) Lay out terraces

6.19) Run a corn borer count

6.20) Identify corn as ready for ensiling

6.21) Fumigate stored grain

6.22) Control rodents in stored grain

6.23) Clip pastures

6.24) Renovate a pasture

6.25) Buy certified seed

7. FARM MECHANICS

7.1) Dress a grinding wheel

7.2) File an auger bit, hand saw, timber saw, circular saw, etc.

7.3) Make out a bill of materials for a building

7.4) Construct a small building

7.5) Mix and apply paint

7.6) Tie useful rope knots

7.7) Splice a rope

7.8) Lace a belt

7.9) Fit handles to tools

7.10) Solder a hole, seam, or patch

7.11) Cut, file, and drill a piece of cold metal

7.12) Cut threads with a screw plate

7.13) Replace mower sections

7.14) Forge and temper metal

7.15) Weld with acetylene and/or electricity

7.16) Cut glass

7.17) Glaze a window

7.18) Mix, place, cure, and finish concrete

7.19) Stretch a woven wire fence

7.20) Lubricate farm machinery

7.21) Tune-up a tractor

7.22) Overhaul a small gasoline engine

7.23) Paint a farm building

7.24) Repair and hang a gate

7.25) Sharpen a scythe, wood chisel, plane bit, cold chisel, axe, mower, knife, pruning shears, drill bit, disc harrow blade, etc.

8. MISCELLANEOUS

8.1) Take an inventory of the farm shop

8.2) Take an inventory of farm equipment

8.3) Take an inventory of feed supplies

8.4) Keep records on various enterprises

8.5) Plan and build a fire lane

8.6) Select and cut trees from a woodlot

8.7) Transplant evergreens and other trees

8.8) Identify poisonous weeds

8.9) Remove hazards from livestock loading areas

8.10) Treat seed potatoes

8.11) Small fruits:

- A) Plant small fruits
- B) Cultivate and space strawberry runners
- C) Identify insects and diseases
- D) Prepare spray materials
- E) Properly prune small fruits
- F) Erect proper supports for small fruits
- G) Properly pick small fruits
- H) Apply mulch to small fruits
- I) Remove the mulch from strawberries
- J) Store small fruits

8.12) The Home vegetable garden:

- A) Plant seeds - flat, hot bed, cold frame, or the garden plot
- B) Transfer garden plants
- C) Apply manure and commercial fertilizer to a garden plot
- D) Prepare garden soil for planting
- E) Adjust and operate a garden tractor
- F) Adjust and operate a roto-tiller
- G) Adjust and operate a garden cultivator
- H) Use a garden hoe, rake, and spade
- I) Identify insect pests and diseases in the garden

J) Prepare spray or dust materials
K) Operate a hand sprayer or duster
L) Irrigate the garden
M) Properly store garden products
N) Plan a garden for home use
O) Introduce improved varieties
P) Prepare and show garden produce

8.13) Tree Fruits

A) Introduce an improved variety
B) Transplant trees
C) Prune trees
D) Thin fruit on trees
E) Pick, grade, package, and market fruit
F) Identify insects and diseases
G) Prepare and apply spray material
H) Grow a winter cover crop
I) Bud and graft
J) Properly apply fertilizers
K) Care for nursery stock
L) Prevent rodent injury in the orchard

SUMMARY OF FARM AND HOME IMPROVEMENT PROJECTS ON STUDENT'S HOME PLACE

Date	KIND AND SCOPE OF IMPROVEMENT PROJECTS	Hrs. Student Labor	Cost If It Applies

Unit: Supervised Occupational Experience Programs

Problem Area: Keeping Records

Situation for the unit (local):

Teacher objectives:

1. The students will be able to keep careful and accurate records.
2. The students will be able to explain the value of keeping good records.
3. The students will be able to list the advantages of keeping good records.
4. The students will know what to include in good records.
5. The students will be able to prepare and analyze a net worth statement.

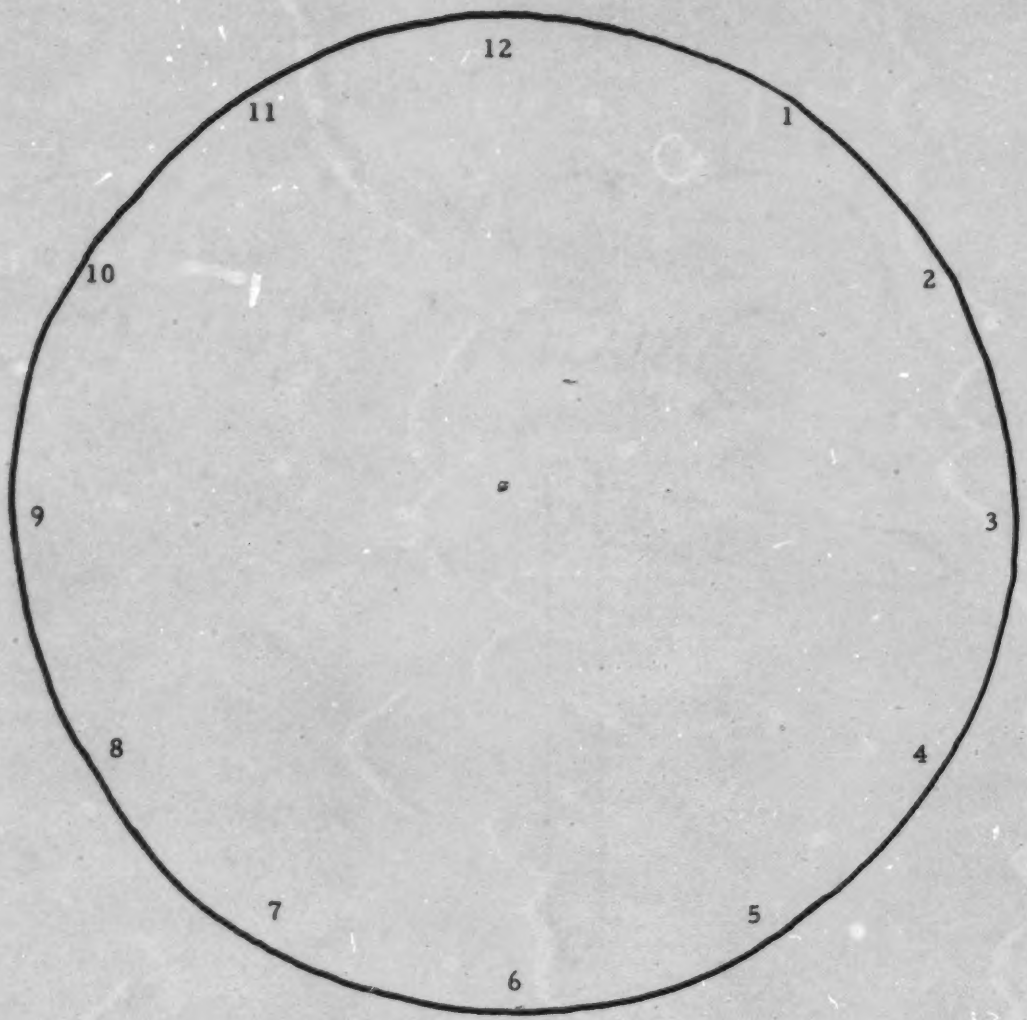
Group objectives:

Students will have overt and covert concerns about:

1. Why must I keep records?
2. Will all students in agricultural education have to keep records?
3. What must I record in my record book?
4. Will my record book be graded?
5. How will my record books enter into my total grade in agricultural education?

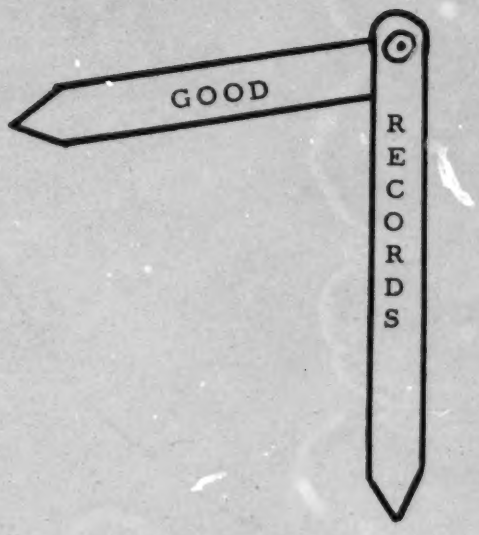
INTRODUCTION:

WHAT TIME IS IT?



△ FARMING OR WORKING WITHOUT RECORDS IS LIKE HAVING A CLOCK WITHOUT HANDS.

NOW, WHAT IS THE TIME?



Problems and Concerns of Students:

1. What records must I keep? Why?
2. What use and values can be made of these records?
3. When and how should I keep records?
4. What should be included in a complete record book?
5. How do I calculate expenses and receipts?
6. What is the value of a net-worth statement and what items are to be included in it?

References:

Guide for Using the Vocational Agriculture Record Book for Production Agriculture. French-Bray. Baltimore, Maryland.

Hopkins, J. A. and D. A. Turner. Records for Farm Management. Prentice-Hall, Inc. Englewood Cliffs, N.J.

Vocational Agriculture Record Book for Production Agriculture. French-Bray. Baltimore, Maryland.

Records of Supervised Occupational Experience and Training in Vocational Agriculture. French-Bray. Baltimore, Maryland.

Farm Machinery Performance and Costs. Extension Division, VPI & SU. Pub. 510. August 1972. (Revised)

Visual Aids:

Copies of National Record Book for each student
Transparencies of pages of the record book

Special Events and Activities:

1. Use extension farm management specialist, outstanding young farmer, or FFA member to emphasize and illustrate the value of good records.
2. Prepare displays of good record books.

3. Have students prepare their net worth statement.

4. Have students suggest records they should keep such as sales and receipts, expenses, labor (self and hired), inventories, production, breeding, death loss, and birth.

5. Use the "Guide for Using the Vocational Agricultural Record Book" to illustrate budgeting and record keeping.

Application and Evaluation:

Correct and accurate records allow people to determine what makes or loses them money. For example, a farmer with beef and swine as enterprises may determine through good records that the hogs have been making up a deficit in his bank account created by the beef co[illegible]. To make good decisions you must have good records upon which to base your decisions.

Sample evaluation questions:

1. List four advantages of good records.

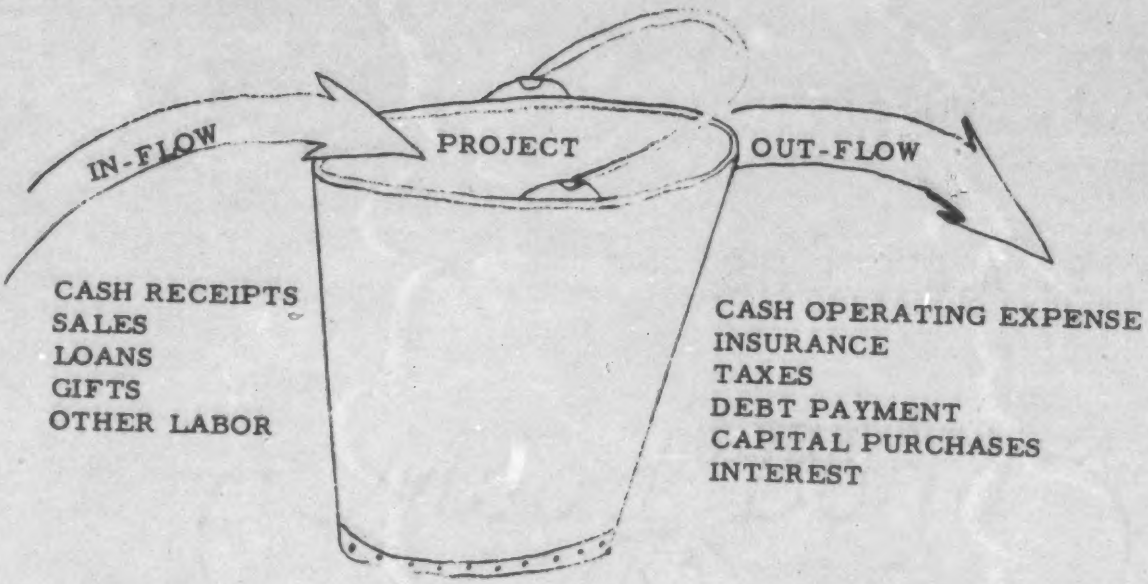
2. Why should you keep records?

3. What items are included in good records?

Summary:

WHY KEEP RECORDS?

RECORDS ARE KEPT TO RECORD THE "IN-FLOW" AND "OUT-FLOW" OF ALL MONIES



REASONS:

1. DETERMINE EARNINGS
2. DETERMINE FINANCIAL PROGRESS
3. DETERMINE PROFITABLE ENTERPRISES
4. DETERMINE INCOME TAXES PAYMENTS
5. DETERMINE SOCIAL SECURITY PAYMENTS
6. DETERMINE SOUND MANAGEMENT DECISIONS
7. DETERMINE IMPROVEMENTS NEEDED
8. DETERMINE FUTURE PLANNING
9. BASIS OF FFA DEGREE REQUIREMENTS
10. BASIS OF OTHER FFA AWARDS

WHAT TO INCLUDE IN A COMPLETE RECORD BOOK:

1. BUDGET

2. AGREEMENTS

3. INVENTORIES

4. INCOME ACCOUNTS

5. EXPENSE ACCOUNTS

6. SUMMARY

7. ANLYSIS

8. NET WORTH STATEMENT

LOCAL CHARGES AND CREDITS TO BE MADE

ITEM	BASIS OF CHARGE	CHARGE
LABOR		
Family labor	Hour	
Self labor	Hour	
MACHINERY		
Plowing	Acre	
Disking	Acre	
Harrowing or rotary hoeing	Acre	
Cultivating	Acre	
Combining or harvesting	Acre	
RENT		
Crop land	Acre	
Pasture	/animal unit/mo.	
Housing	/year	
equipment	/year	
BREEDING FEES		
Cow (beef)	Head	
Cow (dairy)	Head	
Ewe	Head	
Sow	Head	
INTEREST	/$100 needed	
MANURE		
Cattle	/Head/year	
Hogs	/Head/year	
Sheep	/Head/year	
PRODUCTS USED AT HOME		
Meat	Pound	
Eggs	Dozen	
Milk	Gallons	
Produce		
FEED ON HAND		
Corn	Bushel	
Oats	Bushel	
Barley	Bushel	
Wheat	Bushel	
Hay	Ton	
Silage	Ton	

GENERAL FEED GUIDELINES

SHEEP

Kind	Pasture Days	Corn	Oats	Legume Hay	Protein (lbs)	Other Hay* Roughage
Ewes-Mixed Roughage	270	1 bu.	2 bu.	.12 T	20	.12 T
Ewes-Legume Roughage	270	1 bu.	2 bu.	.20 T	10	0
Ewes- Non-legume Roughage	270	1 bu.	2 bu.	0	40	.20 T
Lambs- Sold @ 4 mos.	0	1 bu.	0	0	5	0
Western Lambs	0	2.5 bu.	1 bu.	.10 T	20	0

*Mild winters with supplemental pastures may eliminate other roughage.

DAIRY

Roughage - Assumes 5 mos. feeding period plus 20% for pasture;
Large breeds - 2.9 T hay or 1.75 T hay plus 3-1/2 T silage;
Small breeds - 2.0 T hay or 1.00 T hay plus 2-1/2 T silage;
and add 25-30% if no grain is fed.

Production	Pounds Concentrate	Corn Equiv. (Bu.)	lbs. Corn	lbs. Oats	32% Supp.	lbs. Salt
Large Breeds						
6,000# milk	480#	8 bu.	240#	180#	50#	5#
8,000# milk	1310	21	650	500	135	13
10,000# milk	2140	34	1070	815	215	20
12,000# milk	2980	48	1500	1120	300	30
14,000# milk	3810	61	1900	1450	380	40
Small Breeds						
4,000# milk	530	8	270	200	50	5
6,000# milk	1560	25	780	590	160	15
8,000# milk	2590	41	1300	980	260	25
10,000# milk	3620	58	1810	1370	360	40
12,000# milk	4650	74	2320	1760	470	45

SWINE

	Corn (bu)	Oats (bu)	40-50% Protein (lbs)
Gestating sow	5	10	40
Gestating gilt	8	10	85
Farrowing - weaning (each avg. litter)	12	0	75
Weaning to 200# ea. spring pig	10	0	55
Weaning to 200# ea. fall pig	11	0	65

BEEF

Beef cow - 270 days pasture

Without silage - min. 1/2 T. legume hay, 1-1/4 T. other roughage

With silage* - 1-1/2 T. sargo silage or 1 T. corn silage,
plus 1/2 T. legume hay or 100# oil meal

Beef heifer - 270 days pasture

Without silage - 1-1/4 T. legume hay or 1/2 T. legume hay,
plus 1 T. other roughage plus 100# oil meal

With silage - all silage they will eat (approx. 2500#),
plus all the legume hay they will eat (approx. 600#)

*3 pounds of silage equals approximately 1 pound of hay.

FEED FOR CALVES (To be wintered and grazed the following summer.)
(Feed required to produce 1 lb. gain per head during the winter period.)

		POUNDS PER DAY	TOTAL
1.	With Silage and Legume Hay		
a.	Corn silage	20	1.5 tons
	Choice legume hay	4 to 5	0.34 ton
b.	Sorgo silage	20	1.5 tons
	Choice legume hay	4 to 5	0.34 ton
	Corn and oats (half and half)	3 to 5	8 bu.
2.	With Silage and Non-Legume Hay		
a.	Corn silage	20	1.5 tons
b.	Non-legume hay	3 to 5	0.34 ton
c.	Cottonseed meal	1	150 lbs.
d.	Mineral		
3.	With Legume Hay Alone		
a.	Legume hay	12 to 15	1 ton
b.	Corn	3 to 4	9 bu.
	(With excellent legume hay, may not need corn.)		
4.	With Non-Legume Hay		
a.	Non-legume hay	12 to 15	1 ton
b.	Corn and oats (half and half)	3 to 5	9 bu.
c.	Soybean oil meal	1	150 lbs.
d.	Mineral		

FEED FOR CALVES (Fed during the winter and marketed in the spring weighing 650 to 750 lbs.)

		POUNDS PER DAY	TOTAL
1.	First 30 to 60 days		
a.	Corn silage	15 to 20	0.34 to 0.5 ton
b.	Legume hay	4 to 5	0.13 ton
c.	Cottonseed meal	1 lb.	15 to 30 lbs.
2.	Thereafter (full feed till sold in April or May)		
a.	Silage	5 to 10	0.75 ton
b	Corn	8 to 10	20 to 25 bu.
c.	Hay	2 to 4	0.25 ton
d.	Protein	1 to 1-1/2	
	Total Feeding Period		
a.	Silage		1.25 tons
b.	Corn		20 to 25 bu.
c.	Hay		0.38 ton
d.	Protein		175 to 200 lbs.

FEED FOR YEARLINGS: (To be wintered and grazed the following summer)

(Feed required to produce 1-1/4 to 1-1/2 lbs. gain per head per day during the Winter Period)

	POUNDS PER DAY	TOTAL
1. With Silage and Legume Hay		
a. Corn silage	30 to 40	2-1/4 to 3 tons
b. Legume hay	5 to 7	1/2 ton
2. With Silage and Non-Legume Hay		
a. Corn silage	30 to 40	2-1/4 to 3 tons
b. Non-legume hay	5 to 7	1/2 ton
c. Cottonseed meal	1	150-200 lbs.
3. With Legume Hay Alone		
a. Legume hay	15 to 18	1-1/4 tons
b. Corn	3 to 5	10 to 12 bu.
4. With Non-Legume Hay		
a. Non-legume hay	20	1-1/2 tons
b. Corn	5	13 bu.
c. Soybean oil meal	1	150 lbs.

Note: If fed grain 30 to 60 days in fall before marketing--
Corn 7-15 bu.; S. B. M. 50-100 lbs.

FEED FOR YEARLINGS: (Plain cattle fed during the winter and marketed in spring weighing 750-900 lbs.)

	POUNDS PER DAY	TOTAL
1. First 30 to 60 days		
a. Corn silage	30 to 50	1 to 1-1/2 tons
b. Hay	5 to 10	1/5 ton
c. Protein	1-1/2	75 lbs.
2. Thereafter - 90 to 120 days		
a. Corn silage	20 to 25	1 to 1-1/2 tons
b. Corn	12 to 15	20 to 25 bu.
c. Hay	3	1/4 ton
d. Protein	1 to 1-1/4	125 lbs.
Total Feeding Period		
a. Corn silage		2 to 3 tons
b. Corn		20 to 25 bu.
c. Hay		1/2 ton
d. Protein		200 lbs.

APPROXIMATE LABOR REQUIREMENTS

Crop	Hours	Animal	Hours
Corn	10/acre	Dairy Cow	110
Small grains	5/acre	Dairy Heifer	20
Soybeans	8/acre	Beef Cow and Calf	25
Milo	8/acre	Beef Heifer	10
Tobacco	400/acre	Pigs/Litter	40
Hay	10/ton	Fattening Pig	3/Pig
Apples	110/acre	Fattening Cattle-pasture fed	14
Corn or sorghum silage	16/acre	Fattening Cattle-full fed	3/mo.
Sudan or Hybrid sorghum	3/acre	Ewe and Lamb	6
		Turkeys	52/100 birds
		Layers	190/100 birds

MANURE PRODUCED

Animal	Tons	Value/Ton	Pounds of Plant Food N	P	K	Ca
Cattle	13.0	$2.50	130	42	100	115
Sheep	.73	3.60	15	4	14	9
Swine	1.70	2.50	17	12	22	3.5
100 Hens	3.50	5.00	70	56	28	--

THE NET WORTH STATEMENT

DEFINITION:

A net worth statement is a listing of all the assets owned by a person and a listing of all the liabilities owed by a person. The difference between the totals of assets owned and the liabilities owed is called the net worth.

VALUE:

The comparison of the net worth of one year with that of another year is an effective way to tell the amount the business assets have grown or decreased in a given period of time. This is an important factor to consider when judging the ability of management as well as the effect of outside influences on the growth of a business. The solvency, fluidity, soundness and relative security of the business can be learned.

WHAT TO INCLUDE:

ASSETS (THINGS OWNED)	LIABILITIES (THINGS OWED)
1. Inventory value	1. Unpaid bills
2. Accounts receivable	2. Accounts payable
3. Cash on hand	3. Liens
4. Bank accounts	4. Other liabilities
5. Savings	
6. Other investments	
7. Property owned	

SAMPLE NET WORTH PROBLEM

Given the following data, fill out a net worth statement:

- Beginning inventory value of $2528.75
- Ending inventory value of $3279.75
- Cash on hand, beginning of year $107.85
- Cash on hand, end of year $59.84
- Money in bank, beginning of year $400.32
- Money in bank, end of year $1732.98
- Pick-up truck, beginning of year $2700.85
- Pick-up truck, end of year $2300.85
- Set of tools bought during year $185.90
- Unpaid bills, beginning of year $101.00
- Unpaid bills, end of year $42.00
- Accounts payable, beginning of year $100.00
- Accounts payable, end of year $200.00

MY FINANCIAL STATEMENT

Year: Beginning_____, 19___

Ending_____, 19___

ITEMS	Beginning of Year		End of Year	
ASSETS				
1. Cash on hand and in Bank	$ 508	08	$ 1,792	82
2. Cash value of life insurance				
3. Market value of stocks or bonds				
4. Accounts receivable, withholding tax, other				
5. Value of land, buildings and equipment (student's share only)				
Set of tools	--	--	185	90
6. Value of livestock and poultry (student's share only)	2,528	75	3,279	75
7. Value of crop products, feed, seed, supplies (student's share only)				
8. Other assets (list)				
Pick-up truck	2,700	85	2,300	85
A. Total Assets	$5,737	68	$ 7,559	32
LIABILITIES				
1. Accounts payable (list)	100	00	200	00
Unpaid bills	101	00	42	00
2. Other				
B. Total Liabilities	$ 201	00	$ 242	00
STUDENT'S NET WORTH *(Item A minus B)*	$5,536	68	$7,317	32
NET GAIN OR LOSS	xxxxxxxxxxx xxxxxxxxxxx		$ 1,780	64

SOME HINTS ON RECORD KEEPING

1. LEARN CORRECT PROCEDURE FOR RECORD KEEPING

2. PARENTS SHOULD UNDERSTAND PURPOSE OF RECORD KEEPING

3. THIS IS A "COST RECORD" AND NO GIFTS ARE PERMISSIBLE IN SUCH A RECORD

4. START WORK ON RECORDS EARLY

5. KEEP RECORDS <u>NEAT, ACCURATE, AND UP-TO-DATE</u>

6. SUMMARIZE AND ANALYZE THE RECORDS

7. FREQUENTLY MADE ERRORS
   - A. DOUBLE CHARGE IN INVENTORY AND EXPENSE PAGES
   - B. DOUBLE CREDIT TAKEN FOR AN ITEM IN CLOSING INVENTORY AND USED AT HOME
   - C. FAILURE TO ENTER ALL EXPENSES
   - D. FAILURE TO ENTER LAND CHARGES FOR CROP PROJECTS
   - E. FEED FOR LIVESTOCK IS NOT ENTERED IN RETURN FOR OTHER WORK DONE ON THE FARM
   - F. ERRORS IN ARITHMETIC

Unit: Supervised Occupational Experience Programs

Problem Area: Summarizing and Analyzing Records

Situation for the unit (local):

Teacher objectives:

1. The students will be able to make a closing inventory for a business venture.
2. The student will be able to summarize records for a business venture.
3. The student will be able to analyze business records to determine production and economic efficiency.

Group objectives:

Students will have overt and covert concerns about:

1. What use will be made of my personal summaries?
2. How do I go about summarizing my records?
3. How do I develop my closing inventories?
4. Will my summaries be realistic?
5. Who will show me how to summarize and analyze my records?
6. How can I tell how well I have done?
7. Of what use is the summary?

Introduction:

Businessmen prepare an annual summary of their businesses. Why do they do this?

Is it possible to have made money during the year and not have any more money in the bank? How?

Problems and Concerns of the Students:

1. What information do I need to summarize my records? Where do I secure this information?
2. How are production records summarized?
3. How do I go about analyzing the data?
4. What use can be made of my summary?
5. How can I tell how well I did in comparison with others?

References:

Guide for Using the Vocational Agriculture Record Book for Production Agriculture. French-Bray. Baltimore, Maryland.

Hopkins, J. A. and D. A. Turner. Records for Farm Management. Prentice-Hall, Inc. Englewood Cliffs, N. J.

Vocational Agriculture Record Book for Production Agriculture. French-Bray. Baltimore, Maryland.

Visual Aids: Students personal record books
Copies of Summaries pages
Transparencies of Summary pages

Special Events and Activities:

1. Have students develop closing inventories for their enterprises and then summarize these inventories.
2. Have students summarize the account sections of their record books.
3. Have students prepare production summaries and analyze for their enterprises.

4. Using transparency of summary page, complete an illustration.

5. Have students compare their summaries with efficiency factors.

6. Have students determine and report the practices they used that determined profit or loss.

7. Have students determine and report the improvements they will make in next year's program.

Application and Evaluation:

The teacher should emphasize the following uses:

(1) Determine profit or loss.
(2) Determine reason for profit or loss.
(3) Whether to expland or contract the projects.
(4) Establish chapter or department standards.
(5) Compare student achievement with recognized standards.

Sample evaluation questions:

1. Why do we need to summarize records?

2. Given the following data, determine if the project made a profit or a loss:

Summary:

HOW TO SUMMARIZE YOUR RECORDS

STEP #1: EXTRACT THE DATA NEEDED FOR THE SUMMARY FROM THE EXPENSE AND RECEIPT ACCOUNT RECORDS.

STEP #2: RECORD THIS DATA IN THE APPROPRIATE COLUMN ON THE SUMMARY SHEET.

STEP #3: CALCULATE THE OTHER DATA REQUIRED ON THE SUMMARY SHEET.

STEP #4: ANALYZE THE DATA AND COMPARE IT TO OTHER STANDARDS OF PERFORMANCE.

ANALYZING YOUR RECORDS

CROPS

SUMMARY DATA NEEDED:

1. Total acreage of the crop grown
2. Total production of the crop grown
3. Total expenses for the crop grown
   (Total expenses equals cash and non-cash expenses plus net decrease in inventory value for the enterprise.)
4. Gross income for the crop grown
   (Gross income equals cash and non-cash income plus or minus the change in inventory.)

ANALYZE DATA:

1. Yield per acre of the crop grown
2. Cost per acre of the crop grown
3. Cost per unit (lb., bu., bale, ton, etc.)
4. Gross income per acre
5. Net return per acre

SAMPLE CROP PROBLEM

Given the following data for a barley enterprise, fill out a crop production summary and analysis:

- 10 acres of barley
- Total production of 25 tons
- Total expense of $914.50
- Gross income of $1300.00

Crop Production Summary and Analysis

	Crop Enterprise		
	Barley		
Summary Data			
1. Total acreage			
2. Total production			
3. Total expenses			
4. Gross income			
Anaylsis Data			
1. Yield per acre			
2. Cost per acre			
3. Cost per unit produced			
4. Gross income per acre			
5. Net return per acre			

KEY TO SAMPLE CROP PROBLEM

CROP ENTERPRISE

BARLEY

SUMMARY DATA	
1. TOTAL ACREAGE	10 A.
2. TOTAL PRODUCTION	25 T.
3. TOTAL EXPENSES	$914.50
4. GROSS INCOME	$1300.00

ANALYSIS DATA	
1. YIELD PER ACRE	2.5 T.
2. COST PER ACRE	$91.45
3. COST PER UNIT PRODUCED	$36.58 T.
4. GROSS INCOME PER ACRE	$130.00
5. NET RETURNS PER ACRE	$38.55

MARKET LIVESTOCK PRODUCTION

SUMMARY DATA NEEDED:

1. Total animal-days on feed
2. Total pounds of gain
3. Total pounds of feed fed
4. Total feed cost
5. Total expense for enterprise
6. Gross income for enterprise

ANALYZE DATA:

1. Average daily gain
2. Feed per pound of gain
3. Feed cost per 100 pounds (cwt) of gain
4. Total cost per 100 pounds of gain
5. Gross returns per $100.00 of feed fed
6. Net return per $100.00 of feed fed

SAMPLE MARKET LIVESTOCK PRODUCTION PROBLEM

Given the following data for a feeder steer enterprise, fill out the summary and anlysis:

- 10 animals with a beginning weight of 5950 lbs. and an ending weight of 8500 lbs. on feed for 95 days.
- 15 animals with a beginning weight of 3000 lbs. at 37.5¢/lb. and an ending weight of 7800 lbs. on feed for 122 days.
- 29400 lbs. of concentrate fed at a cost of $1102.50
- 25725 lbs. of roughage fed at a cost of $321.56
- Total expense of $1517.06 (not including cost of feeder animals)
- Gross income of $3079.00

MARKET LIVESTOCK ENTERPRISE

	Feeder Steers		
Summary Data			
1. Total animal-days on feed			
2. Total pounds gained			
3. Total pounds feed fed			
4. Total feed cost			
5. Total expenses			
6. Gross income			
Anaylsis Data			
1. Average daily gain			
2. Feed/lb. gain			
3. Feed cost/100 lbs. gain			
4. Total cost/100 lbs. gain			
5. Gross return/$100 feed fed			
6. Net return/$100 feed fed			

KEY TO SAMPLE
MARKET LIVESTOCK PRODUCTION PROBLEM

	MARKET LIVESTOCK ENTERPRISE
	FEEDER STEERS
SUMMARY DATA	
1. TOTAL ANIMAL-DAYS ON FEED	2,780
2. TOTAL POUNDS GAINED	7,350
3. TOTAL POUNDS FEED FED	55,125
4. TOTAL FEED COST	$1,424.06
5. TOTAL EXPENSES	$1,517.06
6. GROSS INCOME	$3,079.00
ANALYSIS DATA	
1. AVERAGE DAILY GAIN	2.64#
2. FEED/LB. GAIN	7.5#
3. FEED COST/100 LBS. GAIN	$19.30
4. TOTAL COST/100 LBS. GAIN	$20.64
5. GROSS RETURN/$100 FEED FED	$216.21
6. NET RETURN/$100 FEED FED	$109.00

BREEDING LIVESTOCK PRODUCTION

SUMMARY DATA NEEDED:

1. Average number of breeding females on hand
2. Number of offspring born
3. Number of offspring weaned
4. Total weight of animals weaned
5. Total feed cost for females and offspring
6. Total expenses for enterprise
7. Gross income for enterprise

ANALYSIS DATA:

1. Percent calf, lamb, or pig crop
2. Average litter size
3. Average production per female
4. Feed cost per 100 pounds of gain
5. Total cost per 100 pounds of gain
6. Gross return per $100.00 of feed fed
7. Net return per $100.00 of feed fed

SAMPLE PROBLEM FOR BREEDING LIVESTOCK PRODUCTION

Given the following data for a beef breeding enterprise, fill out a summary and analysis:

- 1 beef cow on hand for the year
- 1 beef calf born and weaned at 400 pounds
- Total feed cost of $67.75
- Total expense for the year of $94.25
- Gross income of $107.00

BREEDING LIVESTOCK ENTERPRISE

	Beef		
Summary Data 1. Avg. no. breeding females 2. No. offspring born 3. No. offspring weaned 4. Total wt. animals weaned 5. Total feed cost 6. Total expenses 7. Gross income			
Analysis Data 1. % Calf, lamb, or pig crop 2. Avg. litter size 3. Avg. production/female 4. Feed cost/100 lbs. gain 5. Total cost/100 lbs. gain 6. Gross return/$100 feed fed 7. Net return/$100 feed fed			

KEY TO SAMPLE PROBLEM FOR BREEDING LIVESTOCK PRODUCTION

BREEDING
LIVESTOCK ENTERPRISE

BEEF

SUMMARY DATA

1.	AVG. NC. BREEDING FEMALES	1
2.	NO. OFFSPRING BORN	1
3.	NO. OFFSPRING WEANED	1
4.	TOTAL WT. ANIMALS WEANED	400#
5.	TOTAL FEED COST	$67.75
6.	TOTAL EXPENSES	$94.25
7.	GROSS INCOME	$107.00

ANALYSIS DATA

1.	% CALF, LAMB, OR PIG CROP	100%
2.	AVG. LITTER SIZE	--
3.	AVG. PRODUCTION/FEMALE	400#
4.	FEED COST/100 LBS. GAIN	$16.94
5.	TOTAL COST/100 LBS. GAIN	$23.56
6.	GROSS RETURNS/$100 FEED FED	$157.93
7.	NET RETURN/$100 FEED FED	$18.82

STANDARDS OF EFFICIENCY

BEEF BREEDING

EFFICIENCY FACTOR	AVG. FARM	HIGH FARM
1. Percent calf crop	90	100
2. Weight produced per cow (lbs)	700	750
3. Returns/$100 feed fed	$140.00	$185.00
4. Feed cost/cwt. gain	$17.00	$13.75
5. Pounds feed/cwt. gain		
a. Grain	280	160
b. Protein and mineral	25	15
c. Total concentrates	305	175
d. Hay and dry roughage	590	560
e. Legume-grass silage	55	--
f. Corn silage	155	60
g. Pasture (days)	42	40
6. Death loss: % of weight produced	4.4	3.5

DAIRY

EFFICIENCY FACTOR	AVG. FARM	HIGH FARM
1. Milk/cow (lbs)	10,000	12,000
2. Milkfat/cow	355	380
3. Returns above feed/cow	$210	$280
4. Returns/$100 feed fed	190	250
5. Feed cost/unit production	$15.50	$12.75
6. Pounds feed/unit production (1,000 lbs. milk or 100 lbs. wt.)		
a. Grain	225	170
b. Protein and minerals	60	45
c. Total concentrates	285	215
d. Hay and dry roughage	450	400
e. Legume-grass silage	185	135
f. Corn silage	500	400
g. Pasture (days)	270	270

FEEDER CATTLE

EFFICIENCY FACTOR	Steer Calves (Purchased under 500 lbs)	Yearling Steers (Purchased 500-750 lbs.)
1. Grain/animal/day	1.7	1.7
2. Returns/$100 feed fed	$130.00	$122.00
3. Feed cost/cwt. gain	$16.50	$18.50
4. Pounds of feed/cwt. gain		
a. Grain	515	560
b. Protein and minerals	45	45
c. Total concentrates	560	605
d. Hay	240	330
e. Corn silage	200	320
f. Pasture (days)	8	12
5. Returns above feed cost/head	$27.00	$26.00

POULTRY (Laying Flocks)

EFFICIENCY FACTOR	UNDER 300 HENS	300-750 HENS
1. Eggs/hen/year	180	220
2. % Egg production	48	55
3. Returns above feed/hen	$.65	$1.25
4. Returns/$100 feed fed	$115.00	$130.00
5. Feed cost/unit (1 dozen eggs or 1.5 lb. wt.)	.23	.22
6. Pounds of feed/unit Total concentrates	7.5	6.7

SHEEP

EFFICIENCY FACTOR	10-30 EWES	OVER 30 EWES
1. % lamb crop	115	115
2. Returns/$100 feed fed	$115.00	$120.00
3. Feed cost/cwt. produced	$15.75	$16.25
4. Pounds feed/cwt. produced		
a. Concentrates	200	225
b. Hay	500	525
c. Silage	15	40

SWINE

EFFICIENCY FACTOR	AVG. FARMS	HIGH FARMS
1. Pigs farrowed/litter	8.7	9.0
2. Pigs weaned/litter	7.3	7.5
3. Returns above feed/litter	$60.00	$85.00
4. Returns/$100 feed fed	$130.00	$155.00
5. Average wt. of hogs sold (lbs.)	230	220
6. Feed cost/cwt. gain	$10.70	$9.50
7. Pounds feed/cwt. gain		
a. Farm grains	360	320
b. Commercial feeds	65	55
c. Total concentrates	425	375